#48

84th Congress
2d Session

COMMITTEE PRINT

ECONOMIC DEVELOPMENT IN INDIA AND COMMUNIST CHINA

STAFF STUDY NO. 6

SUBCOMMITTEE ON TECHNICAL ASSISTANCE PROGRAMS

Senate

UNIVERSITY
OF MICHIGAN

JUL 13 1956

MAIN
READING ROOM

JUNE 2, 1956

Printed for the use of the Committee on Foreign Relations

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1956

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FOREWORD

India and Communist China together account for more than one-third of all the people in the world and considerably more than the Soviet Union, Western Europe, and the United States combined. They likewise have substantial natural resources.

Since World War II, both of these countries have undergone far-reaching political changes, and both have embarked on programs of economic development. These political and economic changes began against backgrounds in each country that had many common characteristics—predominantly agricultural economies, extreme poverty, low production, and maldistribution of wealth and income.

Yet the courses chosen by the two countries could hardly be more diverse. China has a Communist political system, and its economic planning, like that of the Soviet Union, has emphasized capital investment and industrialization virtually to the exclusion of any immediate increases in the standard of living. Indeed, this program, which requires large savings out of a small national product, may even result in the short term in further depressing the already low standard of living.

India, on the other hand, has a democratic political system, and its economic planning has emphasized the widespread diffusion of economic benefits among the total population.

In a word, China is proceeding along rigid totalitarian lines, India within the framework of a free society. The Chinese Communist Government operates through ironclad edict, the Indian Government through persuasion and "the consent of the governed."

Under the best of circumstances, it would be difficult to make precise comparisons of relative progress in these two countries. The differing approaches suggest China will make the greater progress initially in terms of percentage of gross national product invested, but that India will make the greater progress in terms of rising standards of living. The question remains of whether, over the long term, the greater Chinese investments will pay off more substantially than the more widely diffused efforts in India. This question cannot be answered on the basis of data now available.

These data do, however, have implications which should be disturbing to free nations everywhere. This is particularly the case in the light of the recent example of the Soviet Union which, following the same pattern of development as China, has now in the course of a single generation reached the position of having an exportable surplus of technical skills and certain types of capital equipment. If China should make comparable progress in the course of another generation, and channel that progress into aggression, the consequences for the United States and other free nations would be incalculable.

The seriousness of these consequences is likely to be compounded to the extent that India falls behind China. Despite the success of the Indian first 5-year plan, such data as are presently available are not completely reassuring on this point. The Indian Government is

making a very considerable and effective effort. Whether or not present progress is adequate to satisfy the legitimate aspirations of the Indian people, however, is a question to which the world needs to give serious thought.

Because of the importance of the relative rates of economic development in India and Communist China, the Subcommittee on Technical Assistance Programs of the Senate Committee on Foreign Relations asked the Legislative Reference Service of the Library of Congress to make a factual study of the progress of the two countries. The results of this study are presented herewith and speak for themselves. So far as China is concerned, the study necessarily relies very heavily on Communist sources which, in addition to their other drawbacks, frequently cite economic statistics in terms of percentages. Nevertheless, the study should provide valuable information, not only for the subcommittee, but also for the Senate as a whole and for the public at large.

This study was prepared, under the supervision of the staff of the Foreign Relations Committee, by J. Clement Lapp of the Legislative Reference Service of the Library of Congress. The accompanying maps were prepared by Robert Bostick, also of the Legislative Reference Service. On behalf of the subcommittee, I express our deep appreciation to Messrs. Lapp and Bostick, both of whom took great pains to present extremely complicated data in a meaningful form. Of course, no inference as to the views of the subcommittee should be drawn from any information or conclusion herein.

MIKE MANSFIELD,
Chairman, Subcommittee on Technical Assistance Programs.

June 2, 1956.

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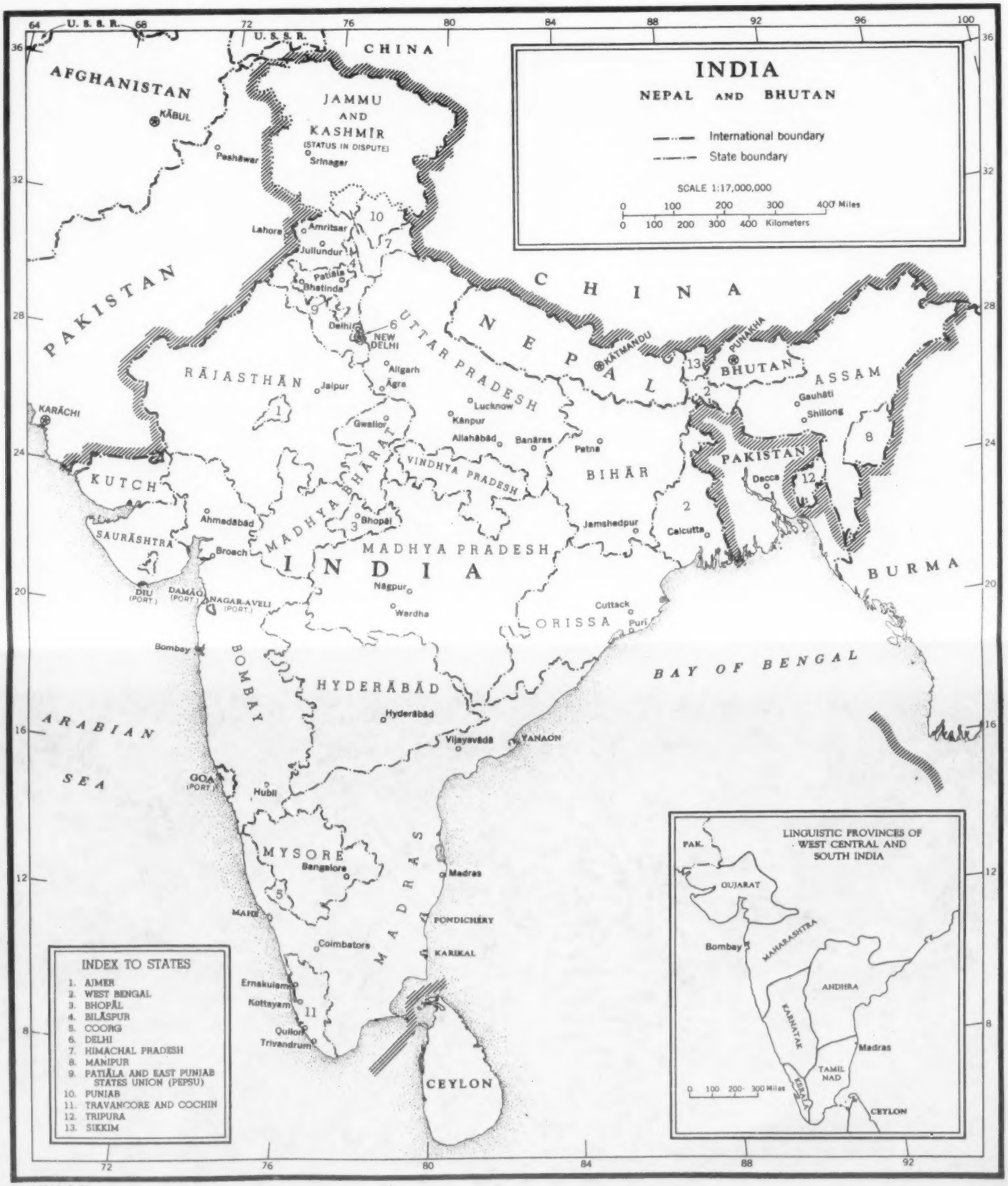

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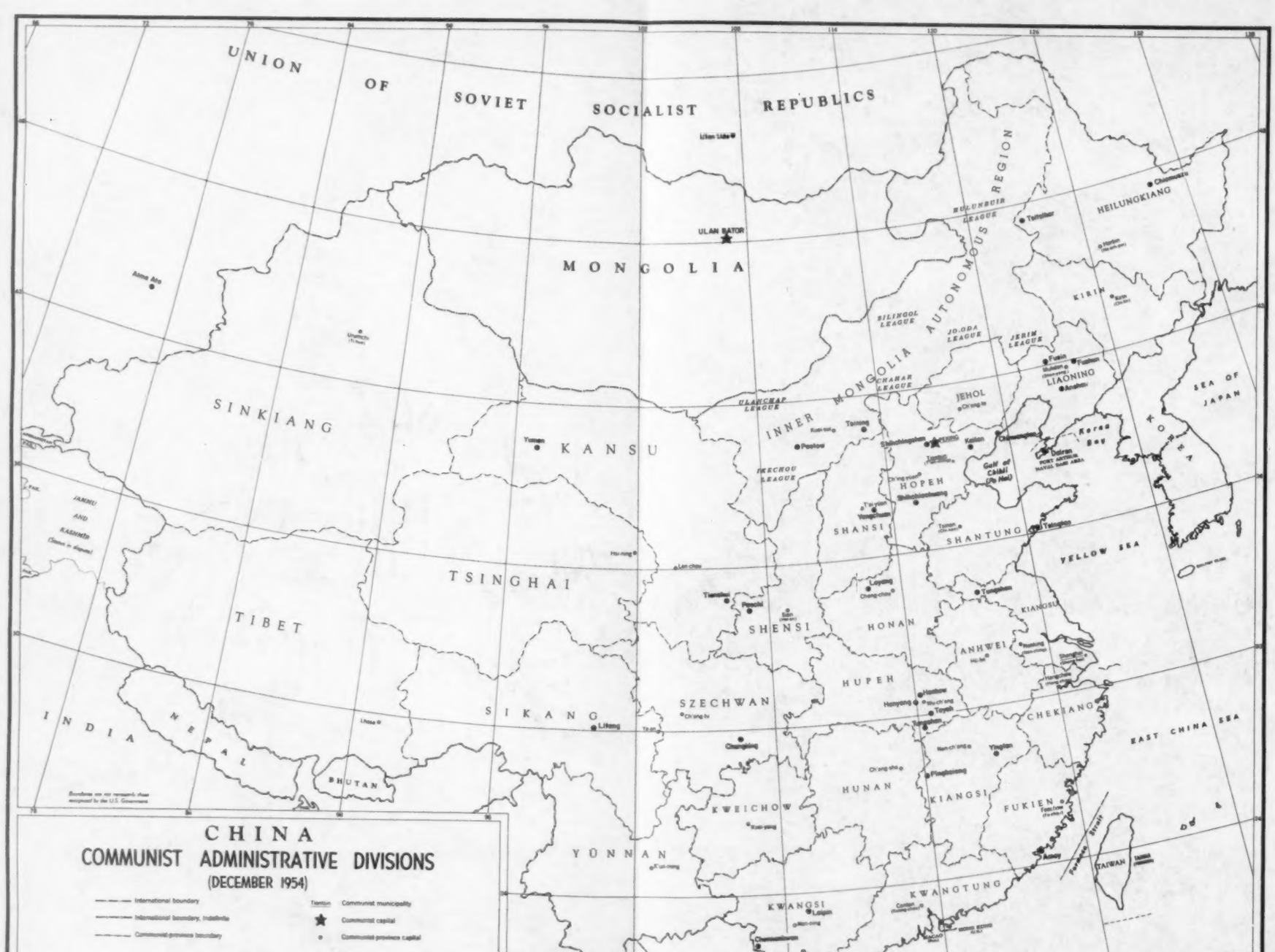

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ECONOMIC DEVELOPMENT IN INDIA AND COMMUNIST CHINA

I. Introduction

India and Communist China are the giants of Asia. Their combined area (5,001,913 square miles) is greater than that of all Europe (4,955,000 square miles). The combined population (939,494,624) is greater than that of Europe, Africa, and both North and South America (920 million).

India achieved independence on August 15, 1947. The Chinese Peoples Republic was promulgated on October 1, 1949. As of those dates both countries have launched economic development programs in a determined effort to bridge the wide economic gulf between themselves and the West. While their broad economic aims have similarities, many differences exist in the detailed objectives and particularly in the means employed in achieving their goals. In the attainment of their economic goals the methods of the two countries are conditioned by divergent political, economic and social philosophies. On the one hand, India is proceeding with a view to preserving and enhancing free institutions. In contrast, China is employing the totalitarian methods and control devices of Communist dictatorship. As these two massive countries progress in their economic development many peoples, particularly in Asia, may be viewing that development as a test of the comparative merits of the two political systems. In a political sense, therefore, the implications of the economic race extend beyond the actual economic development of the two countries.

Perhaps even more important, however, are the political effects which may be expected within the two countries themselves. These effects will be of two kinds: those flowing from economic development itself and those flowing from the relative progress of the two countries in economic development. These effects, particularly those of the first category, are unpredictable. It may reasonably be assumed, though, that if either country should fall seriously behind in its development program, far-reaching political changes would ensue. This would be particularly true if the other country were making spectacular progress at the same time.

The purpose of this study is to compare some aspects of the economy and the economic development activity in the two countries. An attempt has been made to indicate the basic economic development positions of India and China and to set forth the highlights of their economic development programs. For the most part the factual information on development is taken from official records or statements by leaders of India and China.

The use of official data in some instances must be qualified. Likewise, most of the responsible studies of economic development in India and China which are quoted are replete with cautions and quali-

fications. Beyond this, there is a danger in attempting to compare separate sets of data labeled "China" and "India" which often are developed on different bases and are qualified to the extent of not being entirely comparable. Notwithstanding these limitations, a comparison of even the qualified data may serve a useful purpose in attempting to assess the extent to which the two systems are effective in achieving their goals.

II. The Inherited Economies: 1947–49

Many general similarities existed between the economies of India and China at the time India achieved its independence in 1947 and the Communists assumed power in China in 1949. In both countries the ancient civilizations had felt the impact of western commercial and industrial enterprise. Though both remained predominantly agricultural, each had made modest beginnings toward industrialization. In the main, the existing modern factories in both countries were devoted to the production of light consumer articles, particularly textiles. The Japanese had developed heavy industry during their occupation of Manchuria, but this did not become integrated with the Chinese economy until later and after much of the equipment had been removed by the Russians. China and India began their development programs, therefore, from a point at which neither country had made any great progress in heavy industry. In each country a large percentage of the industrial production was from cottage and handicraft industries.

In both countries primitive methods of soil cultivation were followed. Intensive cultivation, particularly in China, with high yields per acre but low output per man was characteristic. There was practically no mechanized farming. Land was fragmented into small individual holdings. Land rents were high and agricultural loans bore high interest rates. The system of landlords, intermediaries, and tenants was found both in India and China. Though railways were further developed in India, in both countries communications were inadequate, making for segmentation and a high degree of local self-sufficiency. Both relied heavily on transportation by human bearers, pack animals and small watercraft. This isolation of large areas of India and China intensified the effects of periodic famine. Although elaborate canal systems had existed from ancient times, vast areas of fertile land awaited the harnessing of the great rivers and the development of large-scale irrigation projects. Both countries suffered from periodic drought, floods and soil erosion. Both felt the burden of intense population pressure. Each country had extremely low national income and a prevailing standard of living which was impoverished by comparison with real per capita income and living standards in the Western World.

In addition, the new government in each country had to cope with extraordinary economic dislocations. In India, these dislocations resulted from the partitioning of the subcontinent at the time independence was achieved in August 1947. India's food position had been serious since the Burma Rice Bowl was separated from India in 1937. Food had been imported in quantity since about 1943. As a result of the partitioning, India retained about 82 percent of the population but received only 69 percent of the irrigated area, 65

percent of the wheat area and 68 percent of the rice area. West Punjab, Sind, and the Sylhet district of Assam, which annually produced nearly a million tons of surplus grain, became part of Pakistan.[1] India's textile industry was disrupted as a result of the inclusion of extensive jute and cotton producing areas in Pakistan while the textile mills remained in India. Immediately following partitioning the Governments of both India and Pakistan were faced with the task of feeding and housing the millions of uprooted refugees. As a result of communal disturbances in the Punjab in the late summer of 1947, some 5 million refugees had crossed into India.[2] India's industrial production, which had expanded during World War II, had declined in the immediate postwar period. Reconversion to peacetime production had been slow. Machinery was worn out and the replacement of capital equipment was difficult. Industrial production also had been affected by the ending of Government priorities for raw materials. Besides a shortage of raw materials, production had been further retarded by widespread labor unrest.

The deterioration of communications had an impact on the entire economic structure. As of 1947, the railway system still bore the scars of depreciation resulting from wartime usage. Many freight cars were immobilized and there was a scarcity of passenger cars, locomotives, and spare parts. The partition then split the railway system between India and Pakistan and imposed a slowdown during the transfer of railway personnel between the two countries. Rolling stock had to be diverted to handle the movement of refugees. Among other immediate difficulties arising from the partition was the division of fixed assets including railway property, post offices, and telegraph lines. There were further problems with regards to such questions as currency and coinage, Government liabilities, the sterling assets of the Reserve Bank of India, the distribution of cash balances, and the avoidance of double taxation.

In China, at the time the Communist government came into power in September 1949, all segments of the economy had been dislocated by the civil war. Apart from long-range economic needs, there was the urgent need for restoring production and the exchange of goods and services. Underlying the immediate effects of the civil war, China had made only slight gains in recovering from the effects of World War II. Among China's wartime losses (excluding Manchuria) were 90 percent of the productive capacity of the machine and light metal industries and 70 percent of the productive capacity of the coal, electric power, and iron and steel industries.[3] China's installed power capacity had been cut by half. The industrial capacity of factories in the area south of the Great Wall had been damaged. In addition to the basic need for increased production and exchange of goods and services, it was necessary to reintegrate the Japanese occupied areas into China proper. There were also natural calamities. During 1945 and 1946, central and south China suffered from drought and in 1949 agricultural production was affected by floods.

As the Communist armies advanced southward, inflation, which had soared during World War II, became incredibly acute. For

[1] India, ministry of Information, Since Independence: August 15, 1947–August 15, 1941, New Delhi 1952.
[2] Approximately 8,500,000 persons crossed the borders of the newly defined Hindu and Muslim areas during 1947. U. S. Department of Commerce, Economic Review of India 1947, International Reference Service, vol. 5, No. 48, July 1948.
[3] ECAFE, Economic Survey of Asia and the Far East, 1947, Shanghai, 1948, p. 79.

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example, between December 1947 and May 1948, the index of currency in circulation (based on 1937=100) rose from 2,187 to 8,437,500.[4] The continuing hostilities with the Communists not only burdened the budget and diverted manpower from production but negated such efforts as were being made to increase production and to restore and stabilize the economy.

Thus, in both India and China, before embarking upon long-range economic development programs the new governments were confronted with the immediate need for resolving the economic dislocations which existed as result of World War II and the very circumstances under which each had come into power. The various segments of the economies of the two countries are compared as of the approximate time each came into power, i. e., as of the 1947–49 period.

A. DEMOGRAPHIC COMPARISON

A census taken in 1947 placed the population of China at 462,789,093.[5] The Communist Government announced in November 1954 that the population of the China mainland was 582,603,000.[6] The population of prepartition India at the 1941 census was 314,766,380. The census of 1951 placed India's population at 356,829,485. Both figures exclude Jammu and Kashmir (4,410,000) and the tribal areas of Assam (560,000).[7]

The average density of population of China has been estimated at 123 persons per square mile and of India, 280 persons per square mile as compared with 44 in the United States and 964 in Java.[8] In China the population is most dense along the eastern seaboard, the Yellow River plain, the Yangtze and Pearl River Deltas and in the Szechuan Basin. The average density in the Yellow River plain is 647 and in the Szechuan Basin 580 per square mile.[9] Within India the population is most dense in a belt which extends from the irrigated plains of the Punjab, down the Ganges Valley and along the eastern coast of the subcontinent around the tip to the Gulf of Cambray. Within this area representing 32 percent of the total area of India is found 69 percent of the population. The average density in the Ganges plain is 686 per square mile and in the Bengal area 829.[10]

In terms of the number of persons per square mile of cultivated land, the 1941 population density figure for India was 535.[11] For China it was 1,485.[12] Both India and China have high birth and death rates. China has a somewhat higher rate of population growth.

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[4] Huang, A. C., Inflation in China, Quarterly Journal of Economics, August 1948 and International Financial Statistics.

[5] China Handbook: 1954–55, The China Handbook Editorial Board, Taipei, Formosa, 1954. 32.

[6] New China News Agency, London, June 21, 1954: New York Times, November 10, 1954. In addition to the mainland population, the population of Formosa was estimated at 7,592,298 and overseas Chinese at 11,743,320.

[7] The International Yearbook and Statesman's Who's Who. Burke's Peerage Ltd., London, 1954.

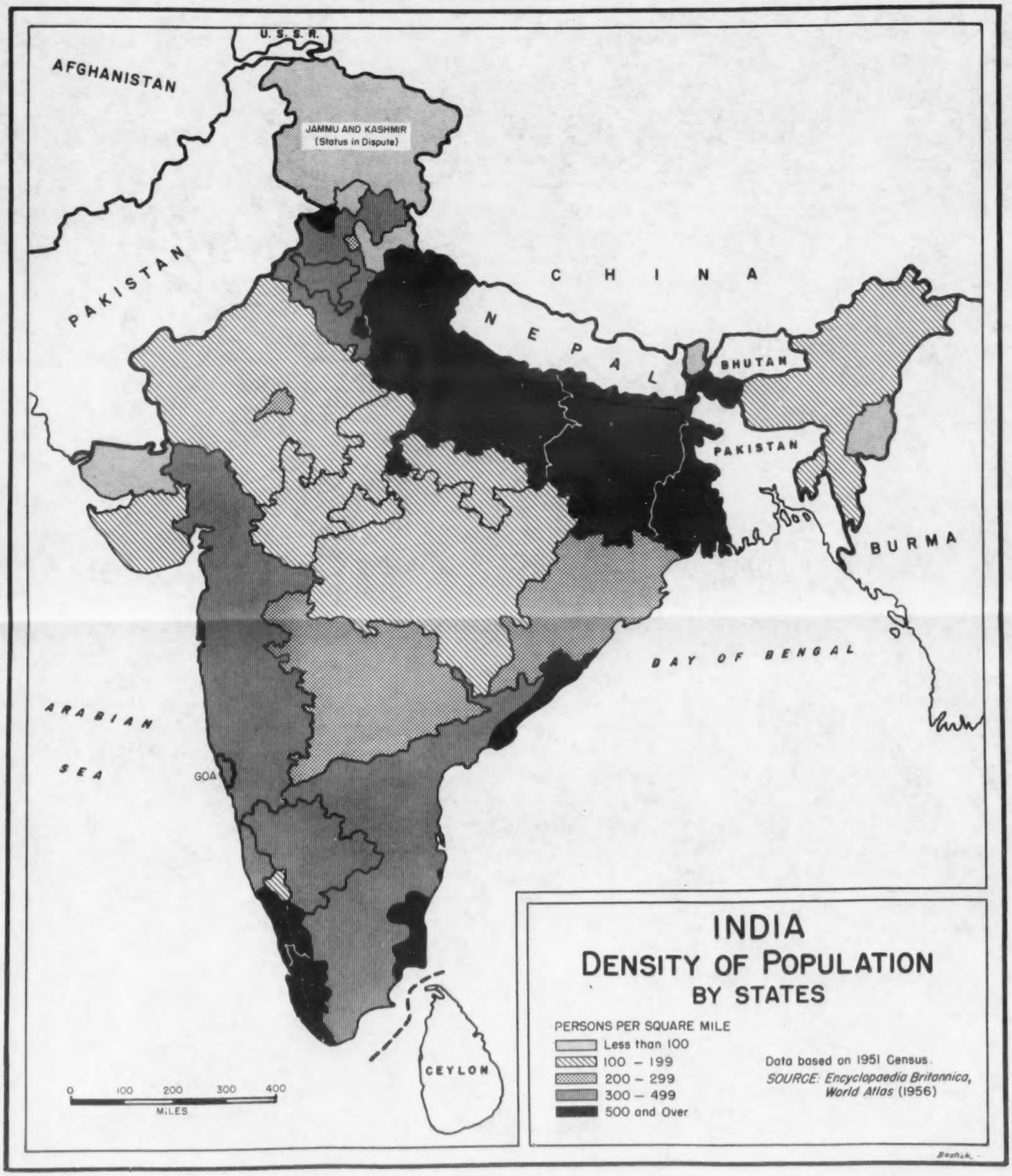
[8] Cressey, George B., Asia's Lands and Peoples, New York, McGraw Hill 1951, 44 pp., and Kingsley Davis, The population of India and Pakistan, Princeton University Press, 1951, 18 pp. Kingsley Davis compares the 1941 average density of 246 per square mile in prepartition India with 130 per square mile in China proper.

[9] Cressey, op. cit., pp. 44, 128.

[10] Kingsley Davis, op cit., p. 18.

[11] Ibid., p. 21.

[12] Cressey, George, op. cit., p. 44.



INDIA
DENSITY OF POPULATION
BY STATES

PERSONS PER SQUARE MILE

- Less than 100
- 100 – 199
- 200 – 299
- 300 – 499
- 500 and Over

Data based on 1951 Census.

SOURCE: Encyclopaedia Britannica, World Atlas (1956)

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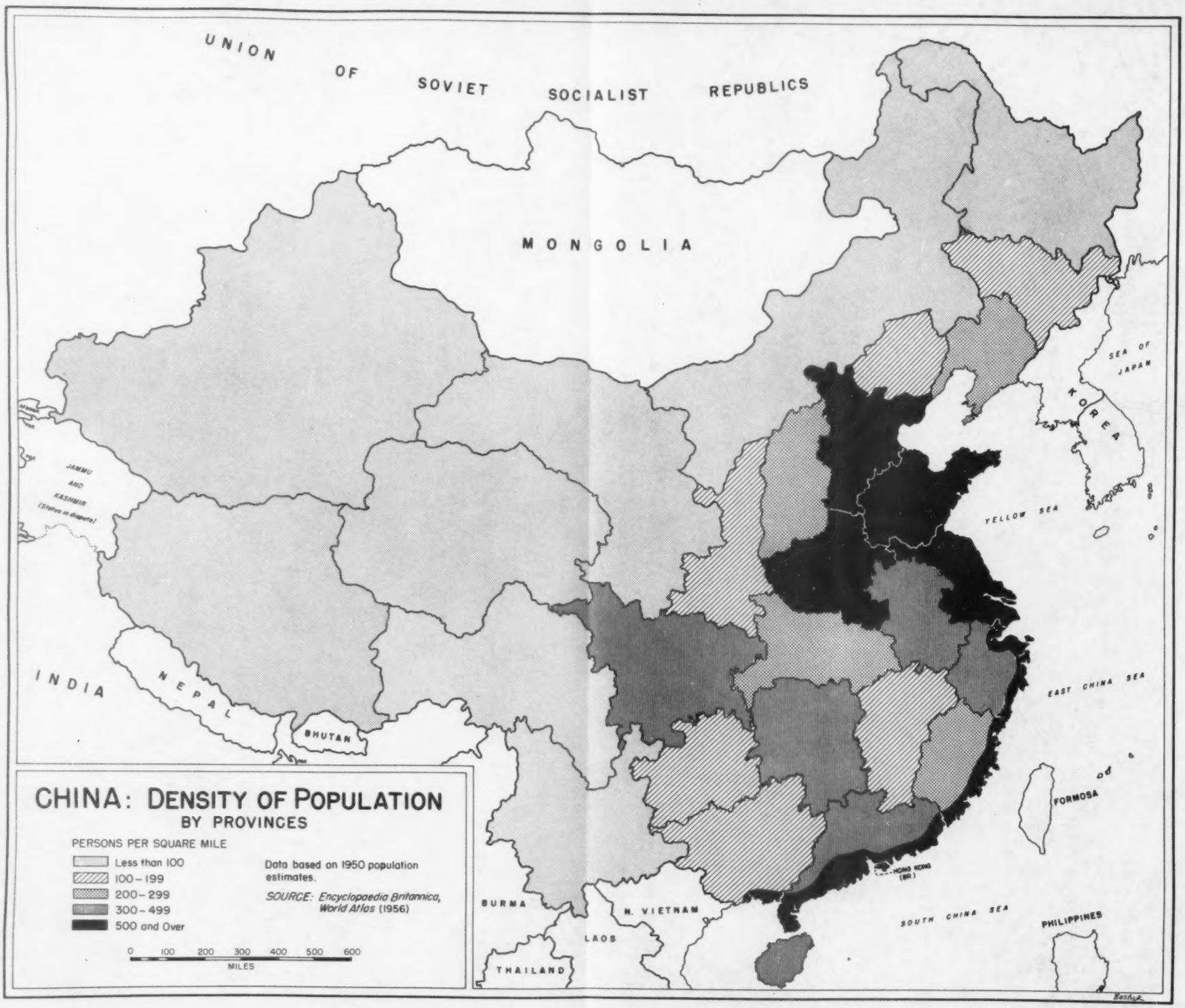

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The annual rate of population growth in China in 1954 was placed at 2 percent.[13] In India during the period 1941–51 the average annual rate was about 1.3 percent.[14]

For purposes of comparison, in the United States recent population growth has been at a rate of 1.7 percent, about midway between that of China and India.

B. NATIONAL INCOME COMPARED

Comparisons of national income, per capita income, and other devices for measuring the degree of poverty or prosperity in India and China do not adequately depict the misery of large segments of the population in both countries. They may serve to indicate in a general way, however, the level or standard of living which the governments in both countries are struggling to improve.

The various available estimates indicate that during the war and immediate postwar period, income in India not only exceeded that in China but also increased at a faster rate. In terms of 1936 prices, China's national income declined 9.2 percent between 1936 and 1946. By contrast, there was a real increase of 7 percent in India's national income between 1931 and 1942. The comparison is not exact because of the different periods involved, but it is indicative.

United Nations studies place per capita income for China in 1946 at U. S. $23.13 and for India in the same year at $42.61. The comparable figures for 1949 are U. S. $27 in China and U. S. $57 in India.[15] Thus, while per capita income in China rose 16.3 percent, per capita income in India increased 33.8 percent. It might be noted that these are both quite high rates of increase, although computed from a very low base. In the same period—i. e., 1946–49—in the United States, per capita income rose 14.1 percent from $1,270 to $1,449.[16]

In an attempt to make a comparison of the world's comparative standards of prosperity, Colin Clark has used as a unit of comparison the amount of goods and services 1 rupee would have purchased in 1948–49 (called the Oriental Unit). On the basis of this scale India is placed above China about midway between the upper and lower limits of Asian countries. On a per capita basis Indian national income ranked about 175 oriental units as compared with 7,000 in Canada and the United States.[17]

When one looks at the sources of income, it is seen that China relied somewhat more heavily on farming. Agriculture accounted for 62.7 percent of China's national income in 1946 as compared to 52.1 percent of India's national income in 1942. In respect to other sources of income, the figures are more detailed for China and show, for 1946, the following percentage distribution by origin: [18]

[13] Jen-min Jih-pao (Peoples Daily) Peking, Nov. 1, 1954. Population growth at an aggregate rate of 1.2 percent a year is assumed by W. W. Rostow, The Prospects for Communist China, John Wiley & Son New York, 1954, 280 pp. Other estimates indicate that a rate of 1.5 percent may be more realistic.

[14] The International Yearbook, op. cit. Alexander Eckstein places the birth rate in 1949 at 38 per 1,000 and the death rate at 24 per 1,000, Rostow, Prospects for Communist China, op. cit., pp. 258–259.

[15] U. N. Economic Commission for Asia and the Far East: Economic Survey of Asia and the Far East, 1947, Shanghai, 1948, p. 17. United Nations Statistical Papers, series E, No. 1, National and Per Capita Incomes Seventy Countries, 1949, New York, October 1950.

[16] Derived from statistics in Economic Indicators, U. S. Government Printing Office, January 1956, p. 3 and p. 6.

[17] India, Progress and Plan. The Economist (London) January 22, 1955.

[18] See Ou Pao-san, The National Income of China, 1933, 1936, and 1946, Social Sciences Study Papers, No. 1, Institute of Social Sciences, Academia Sinica, Nanking 1947, and Revision of the National Income of China, 1933, Quarterly Review of Social Science, v. IX, No. 2. See also Ou Pao-san, A New Estimate of China's National Income, Journal of Political Economy, December 1946.

Commerce	9. 7	Dwelling service	3. 6
Manufacturing	7. 2	Professional service	1. 2
Government service	7. 1	Domestic service	0. 6
Transport and communication	3. 7	Mining and metallurgy	0. 4
Banking and insurance	3. 7	Construction	0. 1

The less precise breakdown available for India, for 1942, shows, besides agriculture, the following:[19]

Organized industry	16. 1
Unorganized industry	11. 5
All other items	20. 3

C. CURRENCY INFLATION AND COST OF LIVING COMPARED

In both China and India the strain of World War II on the financial and banking structure was reflected in currency inflation which reached extremes in China. China had a managed currency system while in India the rupee was tied to the pound sterling until 1947. In that year, an amendment to the Reserve Bank of India Act freed the bank from unlimited obligation to convert rupees and sterling and within the obligation to the International Monetary Fund permitted the bank to buy and sell foreign currencies at rates to be periodically specified. To some extent after 1947 India moved toward a "managed" currency system. In both countries budget deficits resulting from heavy military expenditures were financed in the main by inflating currency. Although expenditure in India was borne in part by the allied powers through crediting India with sterling balances abroad, this had little effect internally. Inflation in both countries was intensified not only by the high demand but by wartime factors affecting production. The problem was vastly more acute in China.

Within the limitation as to accurate statistical reporting, the following figures are illustrative of the extent of inflation. The index of note circulation in China in January 1945 was 28,289 based on 100 in June 1937. Actual notes in circulation in 1947 amounted to 35 trillion yuan as compared with 1,600 million yuan in 1936.[20] Money supply in India in 1947 was 13.4 billion rupees as compared with 3.4 billion rupees in 1939.[21]

During the 8 years of external war (1937–45) the cost of living in Shanghai increased by 250 times and from 1945 to the end of 1947 by 300 times. On the base of 100 in 1937 the cost-of-living index in Shanghai in 1947 was 3,290,000 as compared to an index of 265 in Bombay (on the base of 100 in 1939.) [22] The index of wholesale prices in 1947 was 10,035,911 in China,[23] and 297 in India (based on 100 in 1937).[24]

D. TRANSPORTATION COMPARED

The transportation position of India in 1947 was superior to that of China. As compared with China's total of some 5,000 miles of railways in 1947, India had 24,560 miles, or a little more than 4 times as

[19] U. N. ECAFE, Economic Survey of Asia and the Far East 1947, op. cit.
[20] ECAFE, Secretariat, Economic Survey of China for 1947, April 1948. The index figure of notes in circulation is the official index issued by the minister of finance. See also Huang, A. C., Inflation in China, Quarterly Journal of Economics, August 1948.
[21] International Financial Statistics, February 1948. Figure is based on official Government reports.
[22] ECAFE, Economic Survey of Asia and the Far East, 1947, op. cit., 150, 152. The cost of living index for India as a whole in 1947 was 250, International Financial Statistics, February 1948.
[23] United Nations Monthly Bulletin of Statistics, February 1948.
[24] International Financial Statistics, February 1948.

much. The better position of India is also seen in a comparison of railway mileage in terms of area and population served. At the beginning of World War II in China there were 594.5 square miles of area to each mile of railway compared to 38.5 square miles in India. In terms of population served for each mile of railway, in China there were 61,464 persons per mile of railway compared to 9,463 persons per mile in India.[25]

The war had a serious effect upon both China and India's rolling stock. In the immediate post-war period UNRRA provided China with 262 locomotives and 3,445 freight cars making the position of the 2 countries in 1947:

	China	India
Locomotives	2,324	9,136
Freight cars	29,524	224,152
Passenger cars	3,573	17,342

Railway cargo traffic in 1947 was 3,474 million ton-miles in China compared to 27,416 million ton-miles in India.[26]

Although inland water transport plays an important role in the transport system of both countries, statistics are not available on which a comparison might be made. At the end of 1947, China possessed 4,038 steam and motor vessels having a total of 1,042,402 gross tons.[27] At the end of 1946, India's merchant fleet approximated 200,000 tons.[28] During 1946, the net registered tonnage of vessels cleared through China's ports was 5.7 million tons compared to 4.4 million tons for India.[29]

In China in 1949 there were 22,553 miles of major highways under the administration of the Central Government. Highways of all categories reportedly totaled 81,400 miles.[30] India's road mileage after partition in 1947 was reported as 244,857 miles, of which 91,857 miles were hard surfaced.[31]

In 1949 there were 9 Indian civil airlines operating scheduled services on 35 routes within India.[32] One of these, Air India International, Ltd., made 4 flights weekly to London and 1 to South Africa. During 1949 a total of 15.1 million miles were flown. There were 358,000 passengers and 11,249 tons of freight carried.

In China, in 1949 the China National Aviation Corporation (CNAC), operating 16 domestic routes and 10 overseas routes, was rated the world's 12th largest aviation company. During 1945 this line had carried 19.3 million tons of freight over the "hump" from India to China. Freight carried during 1947 totaled 14.6 million tons and passengers totaled 173,317.

[25] ECAFE, Economic Survey of Asia and the Far East, 1947, p. 116. One estimate places the railway mileage of China in 1949 at about 15,000 miles. Rostow, W. W., op. cit. p. 230. The railway mileage of India in 1948 was reported as 33,984 miles, Indian Embassy, India, August 15, 1947, to August 15, 1948, Washington, D. C., August 1949. (The discrepancy with the ECAFE figure may be due to inclusion of smal lines in forest areas.)

[26] Ibid.

[27] ECAFE, Economic Survey of China, 1947.

[28] U. N. Department of Economic Affairs, Economic Report, Salient Features of the World Economic Situation, 1945–47.

[29] ECAFE, Economic Survey of Asia and the Far East, 1947.

[30] China Handbook 1950, op cit., p. 620.

[31] U. S. Department of Commerce, World Trade Information Service, Postwar Roadbuilding Program of India. Washington, U. S. Government Printing Office.

[32] Air India International, Ltd.; Air-India, Ltd.; Air Services of India, Ltd.; Airways (India), Ltd.; Himolayan Aviation, Ltd.; Indian National Airways, Ltd.; Kalinga Air Lines. India, Ministry of Communications, Report 1950–51, New Delhi, 1951.

China's other airline, the Central Air Transport Corp. (CATC), carried 116,080 passengers and 14 million tons of freight in 1947.[33]

E. AGRICULTURE COMPARED

The prominence of agriculture in the economies of India and China is evident in the high percentage of the population engaged in agricultural enterprises in the two countries. In China in 1949 an estimated 75 percent of the population was engaged in agriculture [34] as compared to 70 percent in India (in 1951). According to the Academia Sinica, in 1946 agriculture contributed 62.7 percent of China's net national product. In India during 1948–49 an estimated 50 percent of the net national product was derived from agriculture.[35] As for area under cultivation, China's cultivated acreage in 1945 has been estimated at about 205 million acres compared to 219 million acres in India in 1947.[36]

Four distinct regions of arable farming are found in China: (1) The spring wheat region covering the three northeastern provinces (Manchuria) and extending across north China as far south as northern Shansi and Shensi Provinces; (2) the winter wheat region extending westward from the Shantung Peninusla, almost as far south as the Yangtze River; (3) a mixed wheat and rice region extending from Chekiang Province westward on both sides of the Yangtze River; and (4) the rice region including south China as far north as a line from central Chekiang to central Kweichow and the southern part of Yunnan. Other crops in north China are barley, oats, millet, soybeans, hemp, flax, kaoliang, cotton, tobacco, peanuts, corn, and sweetpotatoes. In south China, other important crops are citrus fruit, tung seed, sugarcane, tea, bamboo, cassia, bananas, ginger, sweetpotatoes, corn, and a wide variety of fruits and vegetables. Mulberry leaves are grown for silkworms in the lower Yangtze Valley area and in Kwangtung. The staple food in the north is wheat, in the south rice. Cattle and donkeys are the principal draft animals in the north, water buffaloes in the south. Double cropping is not common in the spring and winter wheat regions but in south China 2 and 3 crops a year are grown.

Like China, India has separate rice and wheat regions. Rice is the staple crop in the lower Ganges and the east coast deltas. Wheat is grown principally in the Punjab. A third staple food, the grain sorghums which resemble Chinese kaoliang or American broom corn, is grown chiefly on the poorer soils of western India. To a lesser extent millet is a staple food. Other important food crops are sugarcane, barley, corn, chick peas, and a variety of fruits. The important commercial crops are cotton, jute, peanuts, and oil seeds including flax, castor bean, rape, and mustard. India also produces some coffee, quinine, tea, rubber, lac, and spices.

[33] The China Handbook, 1950, op. cit., p. 626.

[34] Ou Pao-san, National Income of China: 1933, 1936, and 1946. Social Sciences Study Paper No. 17, Nanking Institute of Social Sciences Academia Sinica, 1947, and Ou Pao-san. A New Estimate of China's National Income. Journal of Political Economy, December 1946. The earlier estimate was 59 percent. Alexander Eckstein places the pre-1949 contribution of agriculture to China's national product at 40 percent in Rostow, W. W., Prospects for Communist China, op. cit., p. 224.

[35] Overseas Economic Surveys: Economic and Commercial Conditions in India. London, H. M. Stationery Office, 1953, p. 156, and India, Planning Commission. The First Five Year Plan. New Delhi, December 1952, p. 102. The National Income Committee reported in 1951 that agriculture contributes a share of 47.6 percent to the national income.

[36] China Handbook, 1937–45, op. cit., p. 430, and Japan-Manchukuo Yearbook, 1941, and India, Ministry of Commerce, Features of India's Economic Development, New Delhi [1949]. The area sown in 1951 was 266 million acres. Economic and Commercial Conditions in India, op. cit., p. 157.

China's yields per acre were considerably greater. India's average yield of rice in 1947–48 was 739 pounds per acre compared with an average of 2,433 pounds per acre in China. India's wheat yield of 599 pounds per acre was exceeded by the average of 898 pounds in China.[37]

In both China and India a high percentage of agricultural workers have been the victims of the combination of population pressure, low yields per man-hour expended, fragmentation of landholdings, high interest rates, the land tenancy system, illiteracy, and poverty. In neither country has the farmer been able to accumulate substantial savings. Farms were small and the tendency has been toward further fragmentation. In China in 1930, 36 percent of the farms were under 1.5 acres in size and 25 percent were between 1.5 and 3 acres. The average farm was 3.2 acres broken up into 6 separated fields.[38] The National Agricultural Research Bureau estimated in 1945 that the average acreage per farm household was 2.8 acres (excluding Manchuria).[39] The average agricultural holding in India was a little less than 5 acres.[40]

Landlord systems have existed in both countries. In China in 1944, 59 percent of the farmers were either tenants or part owners of the land worked.[41] In 1947, the National Agricultural Research Bureau reported that 42 percent of the farmers owned their land, 25 percent were part owners and 33 percent were tenants.[42] In China, private land ownership was the rule with absentee and cultivator ownership intermingled throughout the country.[43]

In India more than two-thirds of the farming population were tenant cultivators.[44] Two systems of land ownership existed: (1) The Zamindari system in which land was rented to tenants by absentee owners through intermediaries; and (2) the ryotwari system in which the owner usually cultivated his own land but occasionally secured rent from tenants.[45]

In both countries rents paid by the tenants were high, approximating 50 percent of the crop produced. In China the range of rent was from 40 to 70 percent of the main crop while interest rates were usually about 30 to 35 percent.[46] In some provinces, particularly Szechwan, it was customary to collect rents for years ahead. Often the landlord was the money lender and also controlled the marketing. In addition, the landlords generally acted as intermediaries with the central and provincial governments on such matters as taxation and army recruitment. In India rents often ran as high as 75 percent of the main crop plus high interest rates on crop loans. It was originally

[37] Economic and Commercial Conditions in India, op. cit., p. 159.
[38] C.C. Chang. An estimate of China's farms and crops, Nanking, Nanking University Press, 1932, and J. L. Buck. Land Utilization in China, Chicago, University of Chicago Press, 1937.
[39] China Handbook, 1937–45, op. cit., p. 430.
[40] Overseas Economic Survey, op. cit., p. 157.
[41] China Handbook, 1937–45, op. cit., p. 458.
[42] China Handbook, 1950. New York, Rockport Press, 1950, pp. 581–583.
[43] See Economic Survey of Asia and the Far East, op. cit., p. 183, and China Handbook, 1950, op. cit., p. 578, and Rostow, W. W. Prospects for Communist China, op. cit., pp. 233–235; Chen Han-sheng, Landlord and Peasant in China, New York, International Publishers, 1936; Chen Han-sheng. The Chinese Peasant, Oxford University Press, 1947, and Tseng Hsiao, the Theory and Practice of Land Reform in China. Taipei, the Chinese Research Institute of Land Economics, 1953.
[44] Ibid.
[45] See Economic Survey of Asia and the Far East, 1950, op. cit., pp. 182–191. and R. Chaterjee. Indian Economics. Calcutta, R. H. Chatterjee & Co., 1947, pp. 104–120; and P. N. Driver, Problems of Zamindari and Land Tenure Reconstruction in India. Bombay, New Book Co., Ltd., 1940, and India National Planning Committee, Land Policy and Agricultural Labur and Insurance. Bombay, Vora Publishers, Ltd., 1948, and the Indian Society of Agricultural Economics, Land Tenures in India. Bombay, Vora Publishers, Ltd., 1946.
[46] Buck, J. L., op. cit., p. 462.

the tax collectors who became the absentee landlords (Zamindari).

Neither India nor China was self-sufficient in foods. In both countries population increases were at a faster rate than the increase in food production. One estimate places the caloric content of foods available for human consumption in 1949–50 at 2,020 calories per person per day for China and 1,702 calories for India. Food consumption in the United States in 1949 was 3,200 calories per person per day.[47]

F. BASIC MINERAL RESOURCES COMPARED

Both India and China possess sufficient mineral resources to support industrialization.

Estimates of China's coal reserves have varied widely. Most of the recent estimates put these reserves in the range of 250 billion to 275 billion metric tons, though these figures may be too conservative.[48]

Indian coal reserves have been estimated at 43 billion to 60 billion tons.[49] China's iron ore reserves are estimated at from 2.5 billion to 5 billion metric tons [50] compared with 10 billion metric tons for India.[51]

While China's coal reserves are extensive there is a relative lack of coking coal and high grade iron ore is not plentiful. For the most part, China's coal and iron deposits are not found together thereby requiring costly transportation to industrial centers. Coal deposits are widely dispersed. The largest deposits are in Shansi and Shensi, but production in these provinces has been less than in the coastal provinces (particularly Liaoning and Hopei) which have good railroad connections and ready access to ocean shipping.

Many of the iron-ore deposits have a low iron content and a high silica content requiring concentration before smelting. The largest iron-ore deposits are in Manchuria but these have a low iron content. Deposits in Fukien Province and Hainan Island are of higher grade ore. The centers of China's iron and steel industry are Anshan in the northeast (Manchuria), Shihchingshan in north China and in the Yangtze Valley. China has an adequate supply of alloy materials

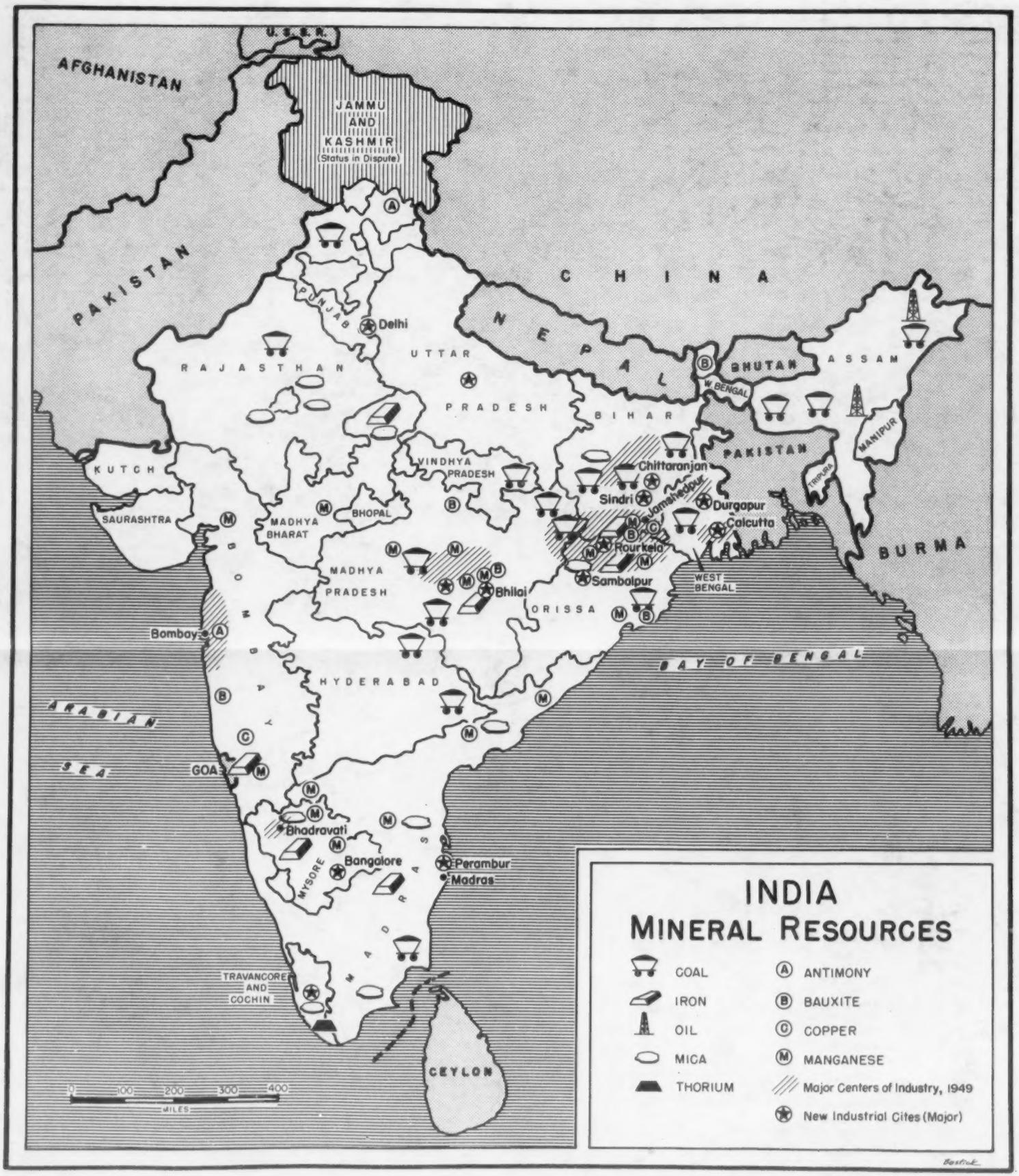
[47] Economic Survey on Asia and the Far East, 1950, op. cit., p. 203, and U. S. Department of Commerce Statistical Abstracts of the United States: 1955. United States Government Printing Office, 1955, p. 87, All estimates computed on the basis of retail prices.

[48] For a general résumé of China's mineral resource positions see H. D. Fong. The Postwar Industrialization of China. Washington National Planning Association, 1942; Condliffe, J. B., China Today: Economic, Boston, World Peace Foundation, 1932; a compendium of authoritative opinion on China's lack of many mineral resources other than coal is contained in B. P. Torgasheff. The Mineral Industry of the Far East. Shanghai, Chali, Ltd., 1930, p. 37; see also H. Foster Bain, Ores and Industry in the Far East. New York, Council on Foreign Relations, 1927, and W. W. Rostow. Prospects for Communist China, op. cit. China Handbook 1937–45. New York, Macmillan, 1947. Board of Trade, report of the United Kingdom Trade Mission to China: 1946. London, H. M. Stationery Office, 1948, p. 89. China Handbook, 1950. New York, Reckport Press, 1950.

[49] P. J. Thomas, India's Basic Industries, Orient Longmans, Ltd., 1948, p. 73. See also J. C. Brown. India's Mineral Wealth. London, Oxford University Press, 1936; F. S. Fox. The Lower Gondwana Coal Fields of India. Geological Survey of India Memoirs, LIX 1934, and V. Ball and R. R. Simpson, The Coalfields of India, Geological Survey of India Memoirs, XLI, pt. 1, 1913. United Kingdom Board of Trade. Overseas Economic Surveys: Economic and Commercial Conditions in India: 1952. London, H. M. Stationery Office 1952. In 1954, M. S. Krishman, Director of the Indian Geological Survey, estimated that coal in seams of not less than 4 feet and with an ash content not exceeding 25 percent amounted to 23 billion tons. Indian minerals, vol. 8, No. 2, April 1954, p. 82. The Planning Commission estimates India's workable coal reserves at 20 billion tons, coking coal reserves at 2 billion tons, Planning Commission, First Five Year Plan, Peoples Edition, New Delhi, 1953, p. 165.

[50] China Handbook, 1950, p. 403. An estimate of 951.7 million metric tons of iron ore with a metallic content of 368.2 million metric tons was made in 1924. (Tegengren, F. R. The Iron Ores and Iron Industry of China. Peiping, China Geological Survey, 1921–24.) In 1936, W. H. Wong of the China Geological Survey raised the estimate to 1.1 billion metric tons. By 1940 new discoveries in Manchuria had raised the estimate to 1,514 million metric tons. Subsequent discoveries have been made including a reserve estimated at 100 million metric tons in the Luku district of Sikang Province. See also World Iron Ore Resources and their Utilization, New York, United Nations, 1950, and Report of the Subcommittee on Iron and Steel Economic Commission for Asia and the Far East, United Nations Document E/Cn.11/1 and S/Rev. 1, dated August 27, 1949.

[51] Thomas, P. J. India's Basic Industries, op. cit., p. 83; and H. C. Jones, The Iron Ore Deposits of Bihar and Orissa, Geological Survey of India Memoirs, LXIII, pt. 2, 1934, p. 249–255, and Geological Survey of India. Indian Minerals, vol. VII, No. 4, October 1953, p. 208 and vol. VII, No. 2, April 1954, p. 89.



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for steel production including manganese, nickel, tungsten, vanadium, cobalt, and the refractories. Of the nonferrous minerals and metals there is a deficiency in copper.[52] Petroleum resources appear to be limited but their extent has not yet been clearly established. The export of tin, wolfram, and antimony from southwestern China has been important in the world's supply. The production of lead, zinc, gold, and silver has been negligible.

India's principal mineral deposits are found in the eastern States of Bihar and Orissa. This is also the center of the principal metallurgical industries. A secondary concentration is in Madhya Pradesh and Hyderabad in central India and another in Mysore in the south. While India's coal reserves are considerably less than those of China the supply of high grade iron ore is among the world's largest. India is fortunate in that the main coal deposits are in close proximity to the iron deposits eliminating the need for long and expensive transport such as is required in China.[53] The great bulk of India's iron ores are hematite ores having an iron content of over 60 percent. India is also well endowed with alloy metals, fluxes, and refractories essential to the iron and steel industry. She is one of the world's leading producers of manganese and has adequate reserves of chrome ore.[54]

Of other important minerals, limited supplies of copper exist. Bauxite is found but the aluminum industry is not developed and production has been small. India has great quantities of lime and has supplied about three-fourths of the world's needs for mica. It is deficient in tin, lead, and zinc.

India's petroleum resources are not estimated to be great. The existing fields are in the Assam-Bengal area. Annual production is about 900 million gallons which accounts for only about 7 percent of the present domestic requirement.[55]

The comparison of basic mineral resources of China and India indicates that both have sufficient reserves of coal, iron, and steel alloy and refractory metals to support heavy industry. China has the greater coal reserves but is not in a good position with respect to coking coal. India has some advantage in having large deposits of high-grade iron ore and in the proximity of coal and iron deposits. Both countries are relatively deficient in petroleum reserves. Deficiencies in the nonferrous metals appear to be negligible with the exception of the shortage of copper. Hydroelectric power (important to industrialization though not a mineral resource) was not greatly developed in either country as of the 1947–49 period but vast potentials existed in both countries.

G. INDUSTRY COMPARED

In both India and China western-type factories were introduced only near the end of the 19th century. Factory enterprise was located in the port cities and has tended to remain near the coasts making for a sharp contrast between coastal and interior economies.

[52] Copper reserves are estimated at 1,394,370 metric tons and petroleum reserves at 778 million metric tons. China Handbook, 1950, pp. 406 and 412.

[53] Some analysts have considered the advantage of proximity of coal and iron to be offset by the restrictive localization of industry. See Charles H. Behre, Jr., India's Mineral Wealth and Political Future. Foreign Affairs, October 1943, p. 83.

[54] Chromite reserves are estimated at about 3 million tons of which 1 million is high-grade ore. Vanadium exists but reserves of molybdenum, cobalt, nickel, and other common alloys are limited. R. N. Chakranarti, op. cit., p. 219. C. H. Behre, op. cit., p. 86.

[55] Bhatnager, S. S. India's Oil Potential. Indian Minerals vol. 8, No. 4, October 1954, p. 241. See also P. J. Thomas, India's Basic Industries, op. cit., p. 148.

The textile industry was first to develop followed by the manufacture of light consumer goods. As foreign trade expanded and as railroads were built shipyards and supporting workshops were established. In both countries the stage of industrial development was characterized by (1) the prevalence of village handicraft industries, (2) the predominance of processing industries engaged in treating mineral and agricultural products for export including textiles, (3) the presence of some factories producing consumer goods, and (4) the relative absence of heavy industries such as metallurgical and chemical works. In China there was a considerable growth in light industry during World War I continuing until around 1937. By the mid-1930's the bulk of industrial establishments were owned by Chinese, an exception being the textile industry in which more than half the looms and spindles were under Japanese control. Between 1937 and the end of World War II Japan controlled the greater part of China's industry.

Before the war, China's industrial development was confined largely to six areas (see map facing p. 11): (1) Southern Manchuria having iron and steel mills at Anshan and Penhsihu, the coal mine at Fushun in Liaoning and a concentration of railways, shipyards, a cement factory, chemical, and other light industries; (2) the Yangtze Delta triangle of Shanghai, Nanking, and Hangchow having two-thirds of the textile factories, powerhouses, flour mills and a variety of small industries; (3) northeastern Hopeh Province along the Peiping-Mukden Railway having the Kailan coal mine, the large cement factory at Tangshan, the glass factory at Chinwangtao, the port center of Tientsin and numerous factories for processing agricultural products; (4) eastern Shantung with the port of Tsingtao, coal mining and iron industries and cotton textile mills; (5) the inland triangle, comprising Hankow in Hupeh, and Pinghsiang and Changsha in Hunan, having China's largest iron and steel works (other than in Manchuria) at Hanyehping, some textile mills and refineries for nonferrous metals; and (6) the Pearl River Delta from Canton to Hongkong having light industries. During World War II there was some industrial development in China's southwest and northwest.[56]

The principal center of heavy industry in Manchuria had largely been developed by the Japanese after 1931. In 1945, however, many of the Manchurian industrial installations were dismantled by the Soviet Union and removed to the U. S. S. R.[57] In addition, China's industrial establishment was weakened by war damage and deterioration both during World War II and as result of the civil war continuing until 1949. China's wartime damage (excluding Manchuria) was reported as about 90 percent of productive capacity of the machine and light-metal industries and 70 percent of the productive capacity of the coal, electric power, and steel industries.[58]

At its peak China's modern industry probably employed about 3 million workers and produced about 10 percent of the national output.[59]

As with China, the development of India's industries was accelerated as result of restrictions on imports during World War I. Between the wars the iron and steel, cotton, sugar, paper, and cement industries

[56] Fong, H. D. The Postwar Industrialization of China. National Planning Association, Washington D. C. 1942.
[57] Pauley, Edwin W. Report on Japanese Assets in Manchuria to the President of the United States, July 1946.
[58] U. N., ECAFE, Economic Survey of Asia and the Far East, 1947. Shanghai, 1948. P. 79.
[59] Rostow, W. W., The Prospects for Communist China, op. cit., p. 228.

were expanded. Large war orders during World War II provided a further boon to industrial development. In addition to the expansion of existing indigenous industries, armaments and munitions were produced in quantity. A shipbuilding industry was begun and advances were made in the production of chemicals.[60]

India's jute industry was centered in Bengal, the cotton mills in Bombay and the iron and steel industry in Jamshedpur (see map facing p. 11). Mining and associated light metal industries were in Orissa, Bihar, and Bengal. Sugar processing was centered in Uttar Pradesh and Bihar. In the environs of Bombay, Calcutta and other principal ports there were work shops and installations essential to the support of these shipping and transportation centers. A variety of small factories producing consumer goods were also located in the port areas.

At the peak of India's wartime production (1944), it was reported that for seven important industries (iron and steel, cotton, jute, sugar, cement, paper, and glass) there were 887 factories employing 1,110,407 workers.[61]

Industrial development in both India and China had been uneven, largely unplanned and had tended to be restricted to safe and easy forms of investment. In neither country was the development commensurate with the size of the country, its population and its natural resources. In assaying the industrial development of China as of 1949, W. W. Rostow places it on a par with that of postwar India and with Japan in 1920–25, Russia in 1913 and the United States in 1870.[62]

H. PRODUCTION COMPARED

The relative position of China and India just prior to the launching of their economic development programs is reflected in the following:[63]

	Year	Unit	China	India [2]
Wheat	1947–48	1,000 metric tons	23,647	4,821
Rice (paddy)	1947–48	do	46,507	28,590
Millet [1]	1947	do	8,364	9,347
Maize [1]	1947	do	7,607	2,235
Barley [1]	1947	do	7,901	2,435
Soybean [1]	1947	do	4,689	
Cotton (ginned)	1948	do	498	739
Wool	1948–49	do		26
Natural rubber	1948	do		16
Sugar	1947–48	do	345	1,202
Coal	1947	do	19,487	30,556
Crude petroleum	1947	do	53	[3] 308
Iron ore	1943	do	1,363	1,727
Do	1946	do	12	1,565
Pig iron and ferroalloys	1947	do	36	1,547
Steel [1]	1947	do	44	1,224
Cement	1947	do	726	2,048
Electric power	1948	Million kilowatt-hours		4,584
Do [4]	1947	do	3,652	3,585
Cotton cloth [4]		Million meters	769	3,464
Cotton yarn [4]		1,000 metric tons	384	587

[1] U. N. ECAFE, Economic Survey of Asia and the Far East, 1947, Shanghai, 1948.
[2] Excluding Manchuria and Formosa.
[3] U. N. ECAFE, Economic Survey of Asia and the Far East, 1947, places India's petroleum production at 334,000 metric tons.
[4] U. N. ECAFE, Economic Survey of Asia and the Far East, 1947, Shanghai, 1948.

[60] See Chatterjee, R. Indian Economics. N. Chatterjee & Co., Ltd., Calcutta 1947; Vakil, C. M., and S. C. Bose, Growth of Trade and Industry in Modern India. Longmans Green, Toronto, 1931; Bannerjer, P., A Study of Indian Economics. Macmillan, London, 1940.
[61] U. N. ECAFE. Economic Survey of Asia, op. cit., 1946, p. 96.
[62] The comparisons were made in terms of estimated aggregate net industrial product. W. W. Rostow The Prospects for Communist China, op. cit., p. 230.
[63] Unless otherwise indicated statistics are taken from United Nations Statistical Yearbook, 1948.

III. Economic Planning: India

The Indian Planning Commission was created in March 1950, with Prime Minister Jawaharlal Nehru as its chairman. The commission, assisted by the Government departments and its own technical staff, undertook to assess the material, capital, and human resources of the country; to formulate a plan for the most effective and balanced utilization of India's resources; to fix priorities, and to determine the nature of machinery necessary to implement the plan.[64] A draft plan completed in July 1951 was circulated in the Indian States for the purpose of securing "the widest possible public discussion." Views on the draft plan were expressed by the state governments and by organizations representing industries, commerce, labor, and agriculture. Many educational institutions set up seminars of teachers and students to study and comment on the plan. Within the districts and municipalities local government officials examined the plan in relation to their local problems. On the basis of these recommendations the 5-year plan which was finally adopted set more ambitious goals than had been envisaged in the draft outline. Total outlay for the period 1951–56 was increased from 14,930 million rupees to 20,690 million rupees (equivalent to $3,135 million to $4,345 million[65]). Although this increased outlay was spread over all the major fields of development, the percentage increase was greatest for agriculture and community-development programs and for the expansion of industry. While the draft plan had dealt separately with those programs which would be undertaken only if foreign aid was received, this distinction was not incorporated in the final plan.

A. India's Approach to Planning

Throughout the development of the 5-year plan, democratic objectives and procedures were stressed. The plan itself emphasizes democratic control.

The Government resolution outlining the scope of the work of the planning commission stated the general context in which planning was to be undertaken and set forth the underlying political and economic premises.

> The constitution of India has guaranteed certain fundamental rights to the citizens of India and enunciated certain directive principles of state policy, in particular, that the state shall strive to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice, social, economic, and political, shall inform all the institutions of the national life, and shall direct its policy toward securing, among other things:
>
> 1. That the citizens, men and women equally, have the right to an adequate means of livelihood;
>
> 2. That the ownership and control of the material resources of the community are so distributed as best to subserve the common good; and
>
> 3. That the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.
>
> Having regard to these rights and in furtherance of these principles as well as of the declared objective of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country,

[64] Government of India, Ministry of Information and Broadcasting. The 5-year plan, a short introduction, New Delhi, 1951. During World War II prior to independence, an ambitious plan had been developed known as the Bombay plan. Almost immediately following independence preliminary economic planning was undertaken by the various ministries.

[65] Rs. 4.75 equals $1.00; 1 rupee equals about 21 cents.

increasing production, and offering opportunities to all for employment in the service of the community.[66]

Upon completion of the draft plan, the planning commission referred its plan to the people. The commission said:

Planning in a democratic state is a social process in which, in some part, every citizen should have the opportunity to participate. To set the patterns of future development is a task of such magnitude and significance that it should embody the impact of public opinion and the needs of the community. We have, therefore, felt it necessary, before presenting our proposals in complete detail, to offer a draft outline of the plan. The draft is intended to be a document for the widest possible public discussion. We hope to have further consultation with the central ministries, state governments and our own advisory board and panels, and also to obtain the views of members of Parliament before we finalize the plan.[67]

The draft outline set forth in broad terms India's goals.

The last half-century has witnessed a widening of social ideals. The economic system is now expected to provide, in increasing measure, freedom from want and insecurity, not to a few but to all * * *. Firstly, there is a greater awareness of an insistence on certain basic values. Economic progress is, therefore, interpreted to mean much more than the building up of an efficient apparatus for production of material goods; it means also the provision of social services, the widening of opportunities for the common man and social equality and justice. Such all-around progress cannot be attained without planning.[68]

The present Ambassador of India to the United States, Mr. G. L. Mehta, who previously served as a member of the planning commission, has summarized India's approach to planning:

Our aim, therefore, is to plan for the fullest utilization of our resources-natural, technical, human-within the framework of the democratic constitution. We desire to build up an economic and social order which combines initiative and enterprise while ensuring social justice and security.[69]

Commenting upon the fact that state planning is often associated with a totalitarian regime in which control resides with an all-powerful central authority, the commission has stated:

Planning in a democratic setup implies the minimum use of compulsion or coercion for bringing about realinement of productive forces. The resources available to the public sector have, at this stage, to be utilized for investment along new lines rather than in acquisition of existing productive capacity. Public ownership of the means of production may be necessary in certain cases; public regulation and control in certain others. The private sector has, however, to continue to play an important part in production as well as in distribution. Planning under present conditions, thus means, in practice, an economy guided and directed by the state and operated partly through direct state action and partly through private initiative and effort.

In making a distinction between revolution and fast evolution, the planning commission sets forth as a basic premise—

* * * that society can develop as an integral whole and that the position which particular classes occupy at any given time—a product of various historical forces for which no individual or class as such can be held responsible—can be altered without reliance on class hatreds or the use of violence. The need is to secure that the change is effected quickly and it is the positive duty of the state to promote this through all the measures at its command.

[66] Government of India, Planning Commission, The First Five Year Plan. A Draft Outline. New Delhi, 1951.
[67] Government of India, Planning Commission. The First Five Year Plan. A Summary. New Delhi, December 1952.
[68] Government of India, Planning Commission. The First Year Plan. A draft outline. New Delhi, 1951.
[69] An address at the Waldorf Astoria, New York City, October 22, 1952.

And finally, the comments of the planning commission on reconciling the need for urgent action with popular consent and participation may be noted:

> The techniques for planning link up directly with the basic approach that a community decides to adopt for the realization of its objectives. The approach to be adopted in India has been defined in the directive principles of state policy laid down in the constitution. Democratic planning, it must be admitted, presents special difficulties. Democratic processes are complex, and the conflicting pulls from different political parties are apt to generate frictions and to slow down the pace of change. And, yet, it is only through democratic processes and methods that a vigorous creative political life is possible. For democratic planning to succeed, it will have to energize the entire community and to place before it a goal of endeavor which will call forth all its latent creative urges. The crucial factor here is leadership, not merely leadership at the top but at all levels.[70]

B. INDIA'S FIRST 5-YEAR PLAN

At the time of its adoption the 5-year plan provided for a total outlay of Rs.20,690 million (US$4,345 million) for development by public authorities over the period 1951–56. This expenditure was distributed as follows:[71]

	Millions of rupees	Percent
Agriculture and community development	3,610	17.5
Irrigation	1,680	8.1
Multipurpose irrigation and power projects	2,660	12.9
Power	1,270	6.1
Transport and communications	4,970	24.0
Industry	1,730	8.4
Social services	3,400	16.4
Rehabilitation	850	4.1
Miscellaneous	520	2.5

During the period of the first 5-year plan, the target figure for aggregate development expenditures in the public sector was increased from Rs.20,690 million to a total of Rs.23,210 million. Of this total outlay, approximately 60 percent was for capital investments owned by the central or state governments. The remaining 40 percent was to add productive equipment to the private sector, maintain and expand social services and provide incentives for community development.

In its broad features, the plan envisaged that the national income would be increased from Rs.90 billion in 1950–51 to Rs.100 billion in 1955–56, an increase of about 11 percent. About 20 percent of the annual increase in national income would go to capital formation. By the end of the 5-year period, the rate of investment would have risen from 5 percent to 6.75 percent of the national income. Domestic investible surpluses would be raised from the level of Rs.450 million in 1950–51 to Rs.675 million in 1955–56. The volume of exports would increase 30 percent during the period. These increases were recognized as a modest beginning in comparison with the rate of investment and capital formation in some other countries. Though admittedly inadequate, these objectives were adopted as the most feasible rate of development which could be attained "without im-

[70] Government of India, Planning Commission, The First Five-Year Plan, A Summary, New Delhi, 1952.

[71] Unless otherwise indicated, the facts contained in this summary of the 5-year plan are taken from the following publications of the Indian Planning Commission: The First Five Year Plan, a Summary, 1952; the Progress of the Plan, January 1954; and Five Year Plan, Progress Report for 1953–54, September 1954.

posing on the people excessive privation and subjecting the whole economy to dangerous strain." [72] The plan recognized that rapid and spectacular progress could not be made in the initial period, but, it treated the first 5-year program as basic to support a sustained advance. Development schemes which had previously been inaugurated by the central and state governments were incorporated in the overall plans. The plan provided for nondiscrimination toward foreign capital, reasonable facilities for repatriation of profits, and fair compensation in the event of nationalization.

The scheme adopted for financing the plan envisaged financing from the following sources:

	Millions of rupees
1. Savings from the current revenues of the central and state governments (including railways) after meeting nondevelopment expenditure	7, 380
2. Internal loans, small savings, etc., to be raised by the central and state governments	5, 200
3. Deficit financing against the release of sterling balances	2, 900
4. External assistance committed, as of 1951	1, 560
5. Further external assistance or alternatively additional internal taxation, borrowing or larger deficit financing	3, 650
Total	20, 690

In apportioning capital among the various sectors of the economy, the Indian Government gave high priority to agricultural production and rural community development. Programs in all sectors represented a concerted effort to bring change and growth to the static rural life of about 70 percent of India's population. The plan assumed that Government expenditure would be supplemented by private initiative and investment which would generate an economic dynamism not susceptible of measurement solely in terms of production targets. For this reason production targets, though indicated for the various sectors, appear to have been given less emphasis than the intangible goals.

External assistance

At the time the plan was first drafted, the financing scheme estimated that Rs.1,560 million (equivalent to US$327.6 million) would be secured through external assistance in the form of grants and loans. By the end of 1954, external assistance had been increased to Rs.2,420 million (equivalent to US$508.2 million) representing about 12 percent of the total estimated expenditure. As of the end of 1954, 14.9 percent of the total outlay had been financed through external assistance.[73]

Since the end of 1954, agreements have been reached on additional loans. In February 1955, India and the Soviet Union concluded an agreement for Soviet material and technical assistance in the erection of a steel mill. This loan will amount to 434 million rupees payable in 12 annual installments with interest at 2½ percent on the unpaid balance. In March 1955, the International Bank for Reconstruction and Development approved a loan of $10 million for the newly organized Industrial Credit and Investment Corporation of India, Ltd. Including preplan loans, this was the seventh International Bank loan

[72] Government of India, Planning Commission, First Five Year Plan, Peoples edition, New Delhi, 1953, p. 15.
[73] Five Year Plan, Progress Report for 1953-54, pp. 13, 25.

to India bringing the total principal to $126 million (Rs. 6,048 million).[74] Also during 1955, negotiations with Great Britain were in progress in connection with a loan and technical assistance for the construction of an additional steel mill.

In presenting the budget to Parliament February 29, 1956, Finance Minister C. D. Deshmukh said that the total aid authorized to date from all sources was of the order of Rs3 billion of which Rs2 billion were expected to be utilized by the end of March 1956.[75]

The source and extent of external assistance as of the end of 1955 are shown in the following table:

India: External assistance

[Million rupees]

	Amount authorized
Loans:	
U. S. Government (wheat loan)	904
U. S. S. R. Government (Bhilai steel mill)	434
International Bank:	
Balance preplan loans	71
Steel project	150
Damodar Valley project	50
Bombay electric power project	78
Industrial Credit Corporation	48
Grants:	
U. S. Government	1, 420
Colombo plan (from Canada, Australia, New Zealand)	450
Ford Foundation	24
Norwegian Government	3
Total loans and grants	3, 632

Sources: Government of India, Five Year Plan, Progress Report for 1953–54; U. S. Foreign Operations Administration, Mutual Security Program: Fiscal Year 1955–56. Indiagram, March 8, 1956.

United States aid under the technical cooperation program, during the first 2 years, placed emphasis upon assistance in increasing food supply and improving health standards. Since then the emphasis increasingly has been placed upon speeding up industrialization. United States technicians have worked with Indian officials and specialists in India, and Indian leaders and technicians have been brought to the United States for training. The United States has assisted in the community development program, in the drilling of deep tube wells and in the multipurpose hydroelectric and irrigation projects. Steel has been provided in support of industrial development projects, for the manufacture of farm implements, and for fabricating railway rolling stock. Fertilizer is being provided to meet the needs until new factories are completed. Railway locomotives and freight cars have been provided. Other projects have been undertaken to control malaria, to improve educational standards, and to improve sanitation and public health facilities. Total obligations for the period including fiscal years 1951 through 1956 amount to $358.4 million. The expenditure estimated for fiscal year 1955–56 is $85 million.[76]

[74] The IBRD loans made prior to the first 5-year plan were for railway rehabilitation (August 1949), agricultural machinery (September 1949) and electric power development (April 1950). International Bank for Reconstruction and Development, Fifth Annual Report, 1949–50, and Indiagram December 24, 1954.

[75] Indiagram, March 2, 1956, p. 6. Information Service of India, Washington, D. C.

[76] For summary of United States economic assistance to India see: FOA, Mutual Security Program: Fiscal year 1955, 1956; India, the FOA Program in FOA. Monthly operations report, January 31, 1954; Foreign Service Despatch, American Embassy, New Delhi, No. 793, dated January 21, 1955.

The Commonwealth Countries, through the Colombo plan, have made a total of $70 million of supplies and equipment available to India. Both Australia and Canada have provided wheat and flour with agreement that counterpart funds be applied to various economic development programs. Additional direct grants have been made for agricultural development, the multipurpose water and power projects, the provision of railway locomotives, trucks and buses, and the provision of equipment for a variety of new industries. New Zealand has aided in financing the All-India Medical Institute and other public-health projects rather than by contributing capital goods. All three countries have provided technicians and have scholarship programs for technical training of Indian students.[77] The United Kingdom has provided technical assistance and has aided economic development through the release of sterling balances.

The Norwegian Government is providing equipment, technical assistance and scholarships for Indian students in connection with programs for expanding fishing fleets.

The United Nations and its specialized agencies also are extending assistance under the U. N. expanded program of technical assistance.

Of the assistance provided by private organizations the most extensive program is that of the Ford Foundation. Over a period of 3 years the foundation has granted a total of $8,265,735 for assistance in rural development, education, public administration research and training and cultural exchange.[78]

C. DEVELOPMENT PROGRAMS

The objectives of the major development programs and progress made toward attaining the objectives are summarized:[79]

Agriculture

Approximately 44 percent of the total planned expenditure in the first 5-year plan was allocated to agriculture (including the community development program) and power development. The plan set goals for an increase of 7.6 million tons in food grain production.[80] In setting these goals the planning commission cautioned that unpredictable seasonal variations might alter the average production by as much as 10 percent. In the achievement of this increase the construction of irrigation works would account for 3.8 million tons, land reclamation 1.5 million tons and improved fertilization and seeds 1.2 million tons. Related measures to increase agricultural production included the application of scientific methods to horticulture, dairying and fisheries. Agricultural diversification and soil conservation measures were also projected.

These goals were exceeded. During 1955 food-grain production totaled 65.8 million tons, or 4.2 million tons more than the plan target. Deducting for increases due to favorable weather conditions, it was

[77] The Colombo Plan, Current Affairs for the Canadian Forces, September 1, 1954; and the Colombo Plan, Progress Report by the Consultative Committee, Karachi, March 1952, and FOA mutual security program, fiscal 1955–56.

[78] The Ford Foundation in India. The Eastern Economist, February 18, 1955, p. 243.

[79] Summary of accomplishments is based on the Government of India Planning Commission progress report for 1953–54 and progress report for April–September 1954. Op. cit. and United States Embassy New Delhi Foreign Service Despatch 722 dated January 5, 1956, and 1955–56 issues of the March of India, Indiagram and ISI Feature Service releases, the Embassy of India, Washington, D. C.

[80] This was composed of increases of 4 million tons of rice, 2 million tons of wheat, 1 million tons of grams and pulses and 0.5 million tons of millet. Cotton production would be increased 42 percent, jute 63 percent, sugarcane 12 percent and oil seeds 8 percent.

estimated at the end of 1955 that by March 1956 the adjusted increase in food-grain production would be around 8 million tons as against the plan target of 7.6 million tons. As a result of increased food production, food imports were reduced from 4.7 million tons in 1950–51 to 0.77 million tons in 1954–55. The production of cotton increased from 2.9 million bales to 4.3 million bales; jute from 2 million to over 3 million bales.

Making the increase in food production possible was (1) the land-reclamation program, (2) expansion of the irrigated area through the river-development and deep tube-well programs, (3) the increased production of fertilizers, (4) the community-development program, (5) the intensive effort of the "grow more food" campaign coupled with improved seeds and practices, and (6) the expanded agriculture extension services.

By the end of 1955, 806,000 acres of land had been reclaimed by the central government. It was reported that 7 million acres had been brought under irrigation through the multipurpose schemes and 10 million acres through minor irrigation schemes. The 17 million acres which were added brought the total irrigated area to 68 million acres. During the period 5,600 deep tube wells were drilled.

Community development

Perhaps the most ambitious aspect of India's 5-year plans is the community development program which is expected to bring what amounts to a social revolution to 500,000 villages. Under the program, villages are divided into blocks of about 100 villages and 50,000 people to each block. Since the program affects the activities of most Government departments, a Central Community Projects Administration has been created as a coordinating agency. In each state there is a development commissioner to coordinate activities within the state. In administrative areas within the states the program is coordinated by the collectors of internal revenue. A project area consisting of three development blocks is under a project administrator who supervises the village workers. The village workers in turn maintain a direct contact with the villagers. In 1953, the Government organized another agency, the National Extension Service, to organize the expansion of the program to new blocks.

It was expected that by the end of 1956, about 120,000 villages with one-quarter of India's rural population would be affected by this integrated program. Here again the goal was exceeded. As of February 1956 there were 1,140 community project blocks throughout India comprising 124,957 villages with a total population of 81.1 million persons.

Earlier figures show that by the end of 1954, 167,000 demonstrations had been held; over 2 million head of cattle had been vaccinated; 383 breeding centers established; 14,693 acres of land had been brought under fruits and 28,799 acres under vegetables. Under this program improved seeds, fertilizers, agricultural implements, water pumps and other agricultural supplies had been distributed. Drinking water wells were constructed on a vast scale and many measures taken to improve rural sanitation. By September 1955, 895,000 acres of land had been reclaimed in community development blocks. Thirty thousand adult education centers were functioning and about 605,000 adults had received training. A total of 12,000 new schools and 5,727 recreation

centers had been opened in development areas. New roads built by villagers totaled 28,631 miles.

Forty-three training centers have given 18-month courses in basic agriculture and related subjects to over 4,000 village workers who in turn are educating villagers. Other training centers train village workers in public health and social education. Among the specific projects which are being undertaken in the villages are the construction of minor irrigation works, land reclamation, the promotion of improved cultivation techniques and seed selection, the improvement of livestock strains, road construction, vocational and technical training, the expansion and improvement of primary and secondary education, housing construction and measures to improve health. The plan estimated that the minor irrigation works and tube-well projects would bring an additional 11 million acres under irrigation. Final figures are not available, but by March 1954 (the end of the third year of the 5-year plan) 4.2 million acres had been put under cultivation by these means.[81] The community development irrigation projects depend greatly on local voluntary labor and are intended to yield quick results.

Since the tube-well program began in July 1953, 1,700 deep wells have been drilled of the 2,000 originally planned. Under a second program commenced in November 1954, 291 tube-wells have been drilled of 650 scheduled for completion by January 1956. Of those completed, pumps have been installed in 1,515. In addition to these two projects under the Indo-American technical assistance program, the Indian Government is drilling 700 deep wells as part of a campaign known as the grow-more-food program.[82]

In the area of public health the primary objectives have been to improve environmental health through protection of water supply, proper disposal of human and animal wastes and other measures to control epidemic diseases. Under the technical cooperation agreement the United States is aiding the community-development program, particularly in the construction of deep tube-wells and in providing fertilizer and iron and steel for agricultural implements. The Ford Foundation is also providing financial and technical assistance to this program.

A special community project has been undertaken with the assistance of Norway for the development of a fishing community in Travancore-Cochin. In a project area of some 10 square miles having a population of 12,000 (and a fishing fleet of 400 vessels), an attempt is being made to develop fish production further and to improve the standard of living and health conditions.

Multi-purpose river valley projects

Viewed against a background of periodic famine in India resulting in part from lack of water storage facilities, the multi-purpose river valley projects are a dramatic element of the 5-year plan. It was estimated that by 1956, these projects would bring an additional 8.5 million acres under irrigation and would add 1.1 million kilowatts of additional electric power capacity. Several of the projects were commenced prior to the adoption of the plan and few will be entirely completed by 1956.

[81] The Economist (London), India, Progress and Plan, January 22, 1955, p. 13.
[82] The Indiagram, July 1, 1955.

Where possible, priority has been given to developing the irrigation rather than the power provisions of the plans for each project. As of March 1955, the larger irrigation schemes had brought an estimated 4.9 million acres under irrigation. It was reported at the end of 1955 that during the period of the first plan the total installed capacity for electric power had increased from 2.3 million to 3.6 million kilowatts, an increase of 1.3 million kilowatts compared with the goal of 1.1 million.

Some of the more important projects are: [83]

Bhakgra-Nagal project.—Located on the Sutlej River in the Punjab, this project, which is scheduled for completion in 1958–59, will bring nearly 4 million acres under irrigation and will generate 400,000 kilowatts of power for the cities of northern India including New Delhi. One of the two canal systems, consisting of 677 miles of main canals, was opened in July 1954, and large tracts of arid land in the Punjab and Pepsu are now receiving water. One of two powerhouses has been completed, and is supplying 48,000 kilowatts. The other powerhouse is expected to be commissioned by the middle of 1956. A total of 1,245 miles of transmission lines have been erected.

Damodar Valley project.—This is a comprehensive river-valley-development project on the Damodar River and its tributaries—a principal river system which lies south of the Ganges River and serves the area to the northwest of Calcutta. It envisages land reclamation, irrigation, soil and forest conservation, resettlement, and industrial development. The plan calls for a total of eight dams with an aggregate water storage capacity of 2,440,000 acre-feet and an installed power generating capacity of about 124,000 kilowatts. An additional 150,000 kilowatts will be supplied by a thermal generating plant. A diversion barrage and canal system will irrigate 1,300,000 acres in West Bengal and will also provide an all-water transportation route between Calcutta and the Raniganj coalfields about 120 miles inland.

The Damodar Valley Corp. has been created as a public agency to build and operate the project, and the International Bank has made two loans totaling $38 million for construction.

The thermal generating plant and one of the hydro plants were commissioned in 1953. A second dam was completed late in 1955, and a third is nearing completion. The project is already providing power and irrigation to areas in Bihar and West Bengal.

Hirakud project.—This is one of three projects (the others to be built later) for the development of the Mahanadi Valley on the eastern side of peninsular India south of the Damodar Valley. The project is designed to control floods in the delta area of the valley, irrigate 1.9 million acres of land, and provide power generating capacity of 200,000 kilowatts. Work on the main dam is expected to be completed ahead of schedule in August 1956. This dam, which is 3 miles long and which will provide storage for 6.75 million acre-feet of water, will supply power for a new steel mill to be built at Rourekela, for an aluminum factory, and other industries. The project also includes a subsidiary dam and power channel, canals, dikes, bridges, a cement factory, and thermal power station. A coastal port is ultimately to be constructed.

[83] Summaries are based primarily on reports of the Planning Commission; The Progress of the Plan, a short survey of the working of the 5-year plan from April 1951, to September 1953, and 5-year plan, progress report for 1953–54. A summary of the multipurpose projects to March 1954 is in British Information Services, Central Office of Information, Economic Development in South and Southeast Asia, some important projects, bulletin No. R 2826 dated March 30, 1954.

INDIA
PRINCIPAL RIVER DEVELOPMENT PROJECTS
U. S. S. R.
AFGHANISTAN
PAKISTAN
JAMMU AND KASHMIR
(Status in Dispute)
C H I N A
NEPAL
BHUTAN
PAK.
BHAKRA-NANGAL
HARIKE
MAYURAKSHI
DAMODAR VALLEY
KAKRAPARA
HIRAKUD
GANGAPUR
MACHKUND
GHATAPRABHA
TUNGABHADRA
LOWER BHAVANI
Amritsar
Simla
NEW DELHI
Bikaner
Jodhpur
Ajmer
Jaipur
Allahabad
Patna
Ahmedabad
Baroda
Surat
Nagpur
Raipur
Rourkela
Chittaranjan
CALCUTTA
Cuttack
BOMBAY
Kolhapur
Hyderabad
GOA
Bellary
Bangalore
MADRAS
Mercara
Mysore
Negapatam
Cochin
CEYLON
Sutlej R.
Indus R.
Jumna R.
Ganges R.
Chambal R.
Son R.
Narbada R.
Tapti R.
Godavari R.
Krishna R.
Tungabhadra R.
Penner R.
Cauvery R.
Periyar R.
Damodar R.
Mahanadi R.
0 100 200 300
MILES

Tungabhadra project.—The Tungabhadra masonry dam, 160 feet high and nearly 8,000 feet long, was completed across the Tungabhadra River in southern India in 1955 and is providing irrigation to 820,000 acres in States of Hyderabad, Andhra, and Mysore. It will also generate 45,000 kilowatts of electric power. The project, built with Australian assistance, includes 342 miles of main canals.

Ghataprabha project.—As the first phase of a longer-range project to develop the Ghataprabha Valley south of Bombay, a 44-mile canal providing seasonal irrigation to about 100,000 acres will be completed in 1956.

Nagarjunasagar project.—Construction of this river valley project in south India began in December 1955. Upon completion, it will have a storage capacity of 9.3 million acre-feet of water, will provide irrigation for 3.2 million acres of land, and will generate 75,000 kilowatts of power.

Mayurakshi project.—This project envisages the construction of a system of diversion barrages, weirs, storage dams, and canals on five rivers in west Bengal. It will irrigate 600,000 acres. There will be a generating station having an installed capacity of 4,000 kilowatts. Canada is assisting in this project in the amount of $3 million plus Indian counterpart funds resulting from wheat grants amounting to $10 million.

Land reclamation

The first 5-year plan set a goal of 1.5 million acres of land to be reclaimed by the Central Government and 4 million acres by state governments by 1956. This included forested lands, deserts, and land infested by the deep-growing Kans weed. The Central Government's reclamation operations are conducted by the Central Tractor Organization which employs some 279 heavy tractors. There are 1,268 state-owned tractors employed in the 6 major states engaged in land reclamation. By the end of 1955, 895,000 acres had been reclaimed by the Central Government. The state government programs are behind schedule. As a first step toward developing the Rajasthan desert a research station has been established at Jodphur and a pilot scheme has been initiated for the improvement of land use and creation of vegetation belts.

Land reform

The first Five Year Plan stated that—

> the land policy should be such as will reduce disparities in wealth and income, eliminate exploitation, provide security for tenant and worker, and finally, promise equality of status and opportunity to different sections of rural population.[84]

It was proposed that all states take a land census and enact remedial legislation in accord with broad principles laid down by the Central Government. The Government of India has established a Central Committee for Land Reform to evaluate land-reform programs and to investigate land problems. While the measures taken by the state governments vary in detail, the following is representative of the remedial action:

1. The abolition of the system of intermediary landlords (Zamindars, Jagirdars, and Inamdars) is accepted policy by all state governments. Although only five states have actually abolished landlordism, most of the large estates have been taken over. Intermediary landlords

[84] Op. cit., Five Year Plan, summary p. 49.

are being paid compensation in the form of bonds and have been allowed to retain their home-farm lands. Tenants have been granted security of tenure although access to title to the land and method of purchase varies between states.

2. In most states, security of tenure has been extended in the form of guaranteeing occupancy rights to tenants combined with provisions for purchase. Land price is fixed as a multiple of rental value and various schemes for payment in installments are in effect.

3. In most states legislation has been enacted scaling rents down to one-fourth or one-fifth of the gross crop produced.

4. A few states have implemented the Planning Commission's recommendation to set limits on future acquisitions of land.

Accompanying the official action, a private voluntary movement known as Bhoodan (land gift) has gained momentum. This movement which peaceably seeks to persuade owners of large estates to give up their holdings has already collected enough land for about three-quarters of a million families.[85]

Industry

Although the first 5-year plan gave more urgent priority to the development of agriculture, industrial development was recognized as basic to the long-range problem of raising the standard of living. The second 5-year plan calls for steel capacity of 6 million tons by 1961. As of early 1956, the following projects existed for meeting the goals of both the first and second 5-year plans:

	Increased capacity (tons)
Tata Iron & Steel Co., capacity being increased from 750,000 tons to 931,000 tons	181, 000
Indian Iron & Steel Co., capacity being increased from 225,000 tons to 624,000 tons with help of International Bank loan of $31.5 million	399, 000
Hindustan Steel, Ltd., new plant being built for Indian Government at Rourkela in State of Orissa by West German firm of Krupp & Demag. Initial capacity, 500,000 tons, designed for ultimate expansion to 1 million tons [1]	1, 000, 000
Indo-Soviet agreement of 1954 calling for Soviet assistance in building a 1 million-ton plant in Bhilai region of Madhya Pradesh [2]	1, 000, 000
Duragapur (West Bengal) plant to be built with British aid	1, 000, 000
Total increased capacity now provided for	3, 580, 000

[1] Indiagram, September 27, 1954 and Business Week, October 2, 1954, p. 150.
[2] For account of this steel mill agreement see U. S. Senate, Committee on Foreign Relations, Subcommittee on Technical Assistance Programs, Soviet Technical Assistance in Non-Communist Asia, June 10, 1955, p. 12.

In general, industrialization progress is on schedule.[86] The index of industrial production, based on 1949, rose to 146.6 in 1954 and to 159 in 1955, an increase of 11 percent in 1 year and of 59 percent over 6 years. By way of comparison, the index of industrial production in the United States, based on the 1947–49 average, stood at 125 in 1954 and at 139 in 1955. The greatest increases in manufacturing capacity made between 1951 and 1954 were ammonium sulfate (441 percent), bicycles (265 percent), sheet glass (256 percent), diesel engines (189 percent), rayon filament (180 percent), and cables and wire (156 percent). Cotton textile production reached an all-time

[85] The Economist, London, January 22, 1955, p. 14.
[86] For summary evaluations of industrialization progress see U. N. Economic Commission for Asia and the Far East. Economic Survey of Asia and the Far East, 1954, Bangkok 1955, p. 120 and the Economist (London) The Plan in Action 1951–54. January 22, 1955, p. 14.

high of 5,045 million yards in 1955—in excess of the 1956 target. Production of vegetable oils likewise exceeded the target. It has been noted, however, that total capital formation has amounted to only about 9 percent of the national income, leaving over half of the original estimate (20 percent) still to be invested. Steel expansion has amounted to only 14.9 percent, electric power 42 percent, and railway locomotives 55 percent of the planned goal. The more important industrial programs are summarized:

Iron and steel

In 1950–51, India produced 1,570,000 tons of pig iron and 980,000 tons of finished steel. The goal for 1955–56 was a production of 1,950,000 tons of pig iron and 1,280,000 tons of finished steel. In 1955, steel production amounted to 1,263,782 tons, and in March 1956 India's first steel-tube plant was commissioned at Jamshedpur.

As distinct from production, the first 5-year plan foresaw an increase in installed capacity from 1,015,000 tons of finished steel in 1951 to 1,650,000 tons in 1957–58. Most programs in progress will take longer than the 5-year period for completion.

Goals and accomplishments in other major industrial fields are summarized below:

Aluminum.—Goal: Increase in installed capacity from 4,000 tons to 20,000 tons a year. Accomplishment: Expansion of 2 plants, completed in 1954, added 10,000 tons. A new 10,000-ton capacity smelter at Sambalpur (Orissa) is scheduled to commence production in 1956.

Textiles—Cotton.—Goal: Increase in existing cotton-textile mills from 10.9 million spindles in 1951 to 11.3 million by 1956, plus 50,000 additional spindles to be added through expansion of the industry. Accomplishment: By January 1954, total spindles had increased to 11.64 million.

Goal: Annual production of 4,700 million yards of mill cloth by 1956. Accomplishment: 4,906 million yards produced in 1953–54 and 5,045 million yards in 1955. Hand-loom cloth production increased from 742 million yards in 1950–51 to 1,200 million yards in 1953–54. The consumption of Indian cotton in the industry increased from 2.7 million bales in 1951 to 3.7 million bales in 1953.

Jute.—Goal: No increase in rated capacity, but an increase in production from 892,000 tons to 1,200,000 tons by 1956. Accomplishment: 15 mills modernized, but production short of target figure largely due to declining foreign market demand.

Rayon.—Installed capacity for producing rayon filament, increased from 4 million pounds per annum in 1951 to 11.2 million pounds in 1954. Expected to be 26.4 million pounds by 1956, exceeding target estimate.

Wool.—52,000 additional spindles are being installed to increase production from 18 million pounds to 25 million pounds by 1956. In 1953–54, 19.6 million pounds were produced.

Petroleum refineries.—The Standard Vacuum Oil Company of New York, under contract with the Indian Government, in July 1954 completed construction of a refinery in Bombay having a capacity for treating 1.2 million tons of crude petroleum annually. The Burmah-Shell group of London is also constructing a refinery in Bombay having a capacity of 2 million tons a year. This refinery is scheduled for completion in 1956. Under the agreement the Burmah-

Shell group is providing the capital investment but will train and employ Indian nationals throughout. The Caltex Company of New York is building a refinery of 500,000 ton annual capacity at Visakhapatnam. The total production target for 1955–56 is 403 million gallons of refined petroleum.[87]

Fertilizer.—Goal: Increase in production of ammonium sulfate from 46,500 tons in 1951 to 450,000 tons in 1956, and of superphosfate from 58,100 tons to 180,000 tons. Accomplishment: Sindri Fertilizer Factory, completed in November 1951, produced more than 320,000 tons of ammonium sulfate in 1955. In August 1954, coke ovens were completed at Sindri with a daily capacity of 600 tons, enough to meet requirements of coke for manufacture of ammonium sulfate.[88]

Cement.—Goal: Increase in production from 2,690,000 tons in 1950–51 to 4,500,000 in 1956.[89] Accomplishment: 1953–54 production was 4,020,000 tons; 3 new cement factories commissioned; 2 others are near completion, making a total of 26 in India. Expansion and modernization programs affecting seven existing plants have been completed.

Power alcohol.—Goal: Increase in production from 4.7 million gallons in 1951 to 18 million gallons by 1956. Accomplishment: 10.5 million gallons produced in 1955. Rated capacity, which amounted to 14.9 million gallons in 1951, being increased by 6.3 million gallons. Additional expansion under consideration.

Other industrial developments.—Production increases have occurred in machine tools (new state-owned factory completed, with technical assistance from a Swiss firm, in 1954), agricultural implements and machinery, automobiles (from 14,462 in 1954 to 22,528 in 1955), diesel engines (from 8,654 in 1954 to 10,193 in 1955), sewing machines (100,000 in 1955, an increase of 20 percent), typewriters, penicillin and other pharmaceuticals, motorcycles, textile machinery, precision instruments, newsprint, porcelain and ceramics, and many other fields.

Transport and communications

The program for transport and communications development emphasized rehabilitation of railways. In 1954 the target for locomotives was raised from 1,038 to 2,062. Of these 727 would be constructed in India, 1,335 procured from abroad. The new Chittaranjan Locomotive Factory exceeded its 5-year target of 268 units by producing its 320th locomotive by the end of 1955. The Tata Locomotive & Engineering Co. produced 62 locomotives during the first 3 years.[90] Production of railway cars increased from 3,707 in 1951–52 to 6,892 in 1953–54. A railway coach factory at Perambur commenced production in October 1955. The factory, which is the largest of its kind in Asia, will reach full production of 350 coaches per year in 1960.[91] In addition, by the beginning of 1955, 14 new railway lines had been opened and 11 dismantled lines restored. A total of 1,863 miles of track had been laid or renewed.

In the program for shipping development there has been slow progress in adding overseas tonnage. The plan proposed an increase of

[87] The First Five Year Plan, p. 91.
[88] Indiagram, December 1, 1954.
[89] Indiagram, December 6, 1954.
[90] Five Year Plan, Progress Report for 1953–54, and Progress Report for April-September 1954.
[91] Indiagram, October 4, 1955.

70,000 gross registered tons bringing total tonnage to 600,000 by 1956. By the end of 1955, 24,260 gross registered tons had been added. By the end of the third year only 12 percent of the amount estimated for development of the four major ports had been expended. A new port is being developed at Kandla, and port and shipyard improvements have been undertaken at Calcutta, Bombay, Madras and Cochin. The plan provides for expansion of civil aviation, postal facilities, and for the construction and repair of roads and bridges.

The original target calling for a production of 25,000 telephones and 20,000 exchange lines per annum was raised to 60,000 and 40,000 respectively. Present production exceeds the original target figure.

Social services and employment

The 5-year plan extended beyond economic development in its provisions for social services. In the field of public health an expenditure of Rs990 million (US$207.9 million) was planned for improved sanitation, malaria and tuberculosis control, preventive health in rural areas, maternity and child care, self-sufficiency in drug production, health education and population control. Health-education programs aimed at an 11 percent increase in the number of doctors and a 36 percent increase in the number of nurses. An expenditure of Rs1,510 million (US$317.1 million) was estimated for educational programs, covering an expansion of facilities ranging from preschool to university levels. Estimates for housing development totaled about Rs490 million (US$102.9 million). The measures envisaged in the area of social welfare included social-work training, women and child-welfare programs, correctional administration, programs for the development of backward frontier areas and for the resettlement of displaced persons.

As of the beginning of 1955 the 125 malaria control units had treated 10.6 million persons with antimalaria drugs and 63 million had been protected. During the first 4 years of the plan 65 million persons were examined for tuberculosis and over 12 million had been vaccinated. In addition to the 1,790 maternal and child health centers a central training center in maternal and child health was opened. During the period 20 hospitals, 152 urban dispensaries, 209 rural dispensaries and 4,792 hospital beds were added. Advances were made in enlarging the corps of doctors, nurses, and public health personnel. Among measures taken to expand the facilities for higher medical education was the establishment of the All India Medical Institute.

By 1955 more than 20,000 new primary schools and 5,700 new secondary schools had been opened. Progress was also reported in schemes for expanding technical and vocational education; literacy programs; higher scientific education and research and social education. As of the end of 1955 over 34,000 housing units had been built under the Government subsidized industrial housing scheme. Progress also was reported in land reform, the expansion of social-security benefits, the stabilization of wages and the improvements of industrial working conditions.

Summary

India's total financial outlay in the public sector as of the end of 1954–55 was Rs13 billion (equivalent to US$2.73 million). The amount budgeted for 1955–56 was Rs7.1 billion (US$1,491 million). This would bring total expenditure by the central and state governments to Rs21.1 billion (US$4,431 million) as against Rs23.2 billion

(US$4,872 million) originally estimated in the plan. Total external aid received from April 1951 to March 1956 amounted to about Rs3 billion (US$630 million) or one-seventh of the total outlay.

India's national income (in 1948–49 prices) increased from Rs88.5 billion (US$18.6 billion) in 1950–51 to Rs99.5 billion (US$20.9 billion) in 1953–54. Per capita income had reportedly reached a level of Rs261 (US$54.81) in 1952–53 which was the plan target for 1955–56. As of March 1955 it was estimated that with allowances made for favorable monsoons the real increase in national income by March 1956 would be about 15 percent.

By way of comparison, it may be noted that in the United States, real per capita disposable income (i. e., income less taxes in terms of constant prices) increased 7.7 percent between 1950 and 1955.

D. INDIA'S SECOND FIVE-YEAR PLAN

The second 5-year plan covers the period from April 1956 through March 1961. The draft plan or frame for a plan known as the Mahalanobis plan has been under consideration since April 1955. Actually, the various ministries and the planning commission have been working on segments of the second plan throughout the period of the first plan. The planning process for the second plan has been slightly altered from that followed previously. Advisory councils of representatives of various segments of industry, agriculture, and commerce have been created. A shift of greater responsibility has been made to localities for the detailed planning of local programs and there has been greater centralization of responsibility at the center for national programs.

During the planning process, the plan was revised upward several times. As of early March 1956, it was reported to call for total expenditures of Rs.71.5 billion (equivalent to US$15 billion). Of this amount, Rs.48 billion (US$10.1 billion) would be in the public sector, compared with Rs.21.1 billion spent in this sector in the first 5-year plan, and Rs.23.5 billion (US$4.9 billion) would be in the private sector.[92]

The plan calls for the national income to increase at the rate of 5 percent a year (as compared to 2 percent under the first 5-year plan). This would represent an increase in real per capita income of 19 percent during the period based on a 7-percent increase in population. To implement this primary objective of raising the standard of living through an increase in the national income, the plan envisions a more rapid industrialization, particularly in the development of heavy industries. Investment in industry and mining would account for 25 percent of the total planned expenditure. (Of the balance, 17.1 percent is for agriculture and community development; 8.9 percent for power; 16.1 percent for transport and communications; 24 percent for construction; and 8.9 percent miscellaneous.) Production of consumer goods would be increased by 20 percent and producer goods by 150 to 175 percent. Of the total amount allocated for industrial

[92] U. S. Department of Commerce, Foreign Commerce Weekly, March 5, 1956, p. 4, see also The Mahalanobis Plan; the Eastern Economist, April 22, 1955, p. 651; the Economist (London) September 17, 1955, p. 934, July 30, 1955, p. 400; the Times (London) September 3, 1955, p. 5; Christian Science Monitor, May 23, 1955, sec. II, October 11, 1955, p. 12; New York Times, September 2, 1955, p. 5; United States President, Report to Congress on the Mutual Security Program for the 6 months ended June 30, 1955, Washington U. S. Government Printing Office 1955, p. 21; U. S. Foreign Service Despatch, American Embassy, New Delhi, No. 793, dated January 21, 1955, No. 861, dated February 10, 1955, No. 1127, dated April 19, 1955; Indiagram, February 11, 1954, May 12, 1954, September 3, 1954, November 15, 1954, January 17, 1955, July 27, 1955, October 7, 1955; Balogh T., India's Second Five Year Plan, a critical appraisal. The Banker (London) August 1955, pp. 111–118. The Eastern Economist, July 29, 1955, and August 12, 1955.

investment, 30.4 percent (Rs.4.2 billion—US$882 million) is for increasing iron and steel production capacity, and 10.7 percent (Rs.1.5 billion—US$315 million) for heavy machinery. Steel production is to be increased from 1.5 million tons to 6 million tons by 1961. Cement production would be increased from 4.5 million tons to about 10 million tons. Noteworthy is the allocation of 21.4 percent (Rs.3 billion—US$630 million) of the industrial investment for consumer goods factories and small-scale industries.

It is foreseen that overall agricultural output would be increased by 20 percent with an increase of 15 percent in the production of food grains.

Under the second 5-year plan there would be a shift from the construction of large-scale river development projects to smaller irrigation works. Present power projects would be continued and further development of transportation facilities, particularly railroads, would be undertaken. The community development program would be continued. A goal of 11 million new jobs to be created by 1961 has since been considered overly optimistic by some officials of the Indian Government.

Although the final financing scheme had not been announced as of March 1956, it was anticipated that Government receipts from taxes, railroad profits, and savings would be Rs.24 billion (US$5 billion), or precisely half of the planned public outlay. Deficit financing of Rs.12 billion (US$2.5 billion) was projected, along with anticipated foreign assistance from all sources of Rs.8 billion (US$1.7 billion). This would leave a gap of Rs.4 billion (US$840 million).[93] To meet at least a portion of this deficit, a proposal is under consideration for increasing taxation from the present scale of 7 percent of the national income to 9 percent.[94]

IV. ECONOMIC PLANNING: CHINA

Economic planning in Communist China was prescribed in the Common Program enunciated by the Chinese Peoples Consultative Conference in September 1949.[95] Article 33 of this document provided that the Central Government—

> shall as early as possible draw up a general plan for rehabilitating and developing the branches of public and private economy of the entire country, determine the division of work and cooperation between the central and local government in economic construction and carry out unified coordination of the mutual relations between the economic departments of the central and local governments.[96]

Prior to the end of 1952, only limited planning was undertaken. This was conducted by the planning board of the Committee on Financial and Economic Affairs and by the various Government ministries and economic agencies. In January 1952, "Tentative regulations governing capital construction" were issued.[97] These defined the procedure for planning and defined the role and relationships of

[93] Foreign Commerce Weekly, Mar. 5, 1956, p. 4.

[94] The financial plan was based on the formula that capital formation would increase from 5.9 percent of national income in 1955–56 to 11 percent in 1960–61. Assuming that 30 percent of the increment were saved the resources for economic development would be Rs.56 billion. Discussion now hinges on the reality of the estimate that 30 percent could be saved. See India's Marginal Rate of Capital Formation, the Eastern Economist, August 5, 1955, and Financing the Second Plan, The Eastern Economist, August 12, 1955.

[95] For a detailed study see Ronald Hsia, Economic Planning in Communist China. New York, International Secretariat, Institute of Pacific Relations, 1955.

[96] Chung-Yang Tsai-Ching Cheng-tse Fa-ling hui-pien (Compendium of laws and regulations regarding financial and economic policies of the Central Peoples Government) Peking Series I, 1950, p. 4, quoted in Ronald Hsia op. cit.

[97] Text of document in Chieh-fang jih-pao (Emancipation Daily) Shanghai, January 19, 1953.

the central planning agency and the decentralized planning units. The period until the end of 1952 was referred to as the reconstruction period. By the end of this period it was reported that the state had obtained control over 80 percent of the heavy industry and 55 percent of total industrial output. At this point preparations were made for longer range planning.

During the last half of 1952, six new ministries were created to administer the 5-year plan which was announced but not made public at the end of 1952.[98] A State Planning Commission was also created to supervise planning and the execution of the plan. Special departments for capital construction were established within the existing Government ministries and economic agencies. Although the first 5-year plan was put into operation in 1953, during 1953 and 1954 numerous changes were made in the original plan targets. The work of making the plan was completed in February 1955. Immediately prior to its final approval and publication there was evidence of an internal political struggle which resulted in a down-scaling of some targets. It was finally approved by the national conference of the Communist Party of China in March 1955 and by the State Council in July 1955.

A. CHINA'S FIRST 5-YEAR PLAN

China's first 5-year plan covers the period 1953–57 inclusive. It provides for a total outlay during the period of 76,640 million yuan.[99] This would be equivalent to US$32.6 billion.[1] Of this total expenditure, 42,740 million yuan (US$18.1 billion) or 55.8 percent is for investment in capital construction. The remaining 33,900 million yuan (US$14,425 million) or 44.2 percent is to be allocated for activities in support of capital construction. These include engineering, surveying, stockpiling, the development of industrial production, transport, and posts and communications. It also would include the capital required for current operations of the various economic cultural and educational departments including the training of specialized personnel.

The distribution plan allocates the total outlay as follows: [2]

	Total outlay billions (yuan)	Percent of total	For capital construction billions (yuan)	Percent of capital constructional outlay
Industrial departments	31.32	40.0	24.85	58.2
Agriculture	6.10	8.0	3.26	7.6
Transport posts and communications	8.99	11.7	8.21	19.2
Trade and stockpiling	2.16	2.8	1.28	3.0
Cultural education, health	14.27	18.6	3.08	7.2
Urban public utilities	2.12	2.8	1.60	3.7
Circulating capital	6.90	9.0	----	----
Large-scale repair	3.60	4.7	----	----
Other	1.18	1.5	.46	1.1
Total	76.64	100	42.74	100

[98] The ministries of First Machine Building, Second Machine Building, Building Construction, Geology, Food, and Higher Education. In addition, the Ministry of Foreign Trade and the Ministry of Commerce.

[99] The First Five-Year Plan of the Peoples Republic of China for the Development of the National Economy: 1953–57. Peking, Peoples Publishers and Li Fu-chun, Report on the First Five-Year Plan for Development of the National Economy, supplement to "Peoples China," August 16, 1955.

[1] Dollar equivalent calculations are based on the exchange rate of 2.355 yuan to the dollar. This is midway between the 1953 buying and selling rate. First Five-Year Plan of the Peoples Republic of China for the Development of National Economy: 1953–57, Peking, Peoples Publishers, August 1955 (translation and summary, U. S. Consulate General, Hong Kong, Foreign Service Despatch 387, 1955, and Li Fu-chun, Report on the First Five-Year Plan, supplement to Peoples China, August 16, 1955.

[2] Ibid.

The main effort under the plan is centered on industrial construction. This is because, in the words of Wang Kuang-wei, Secretary General of the State Planning Commission—

> the continued growth of the national economy can be assured only if priority is given to development of heavy industry. Only this can bring about a steady rise in the material well-being of the people and their cultural growth.[3]

Of the total investment in industrial capital construction (24.85 billion yuan plus 1.77 billion yuan to be provided for agencies other than the Central Government Ministries, equivalent to US$11.2 billion) 88.8 percent will go to heavy industry and 11.2 percent to light industry producing consumer goods.

This is even greater emphasis than the Soviet Union put on heavy industry during its first 5-year plan. Reportedly, the Soviet ratio was 85.9 percent in industries manufacturing means of production to 14.1 percent in consumer goods industries.[4]

This has been explained on grounds that (1) systematic planning of light industry can only follow development of heavy industry, (2) existing light industry still has many latent possibilities, (3) considerable quantities can still be supplied by existing handicraft industries, and (4) agricultural production must be further raised before an adequate supply of raw materials for new light industries is assured.[5]

The lack of emphasis upon agricultural development (7.6 percent of the total expenditure) has been justified by the Chairman of the Planning Commission in that "agriculture cannot yet be extensively mechanized and it is not yet possible to undertake bigger projects in water conservancy and forestry in this 5-year period on a large scale."[6]

No overall plan for financing over the entire 5-year period has been promulgated. Rather, the financial plan is contained in the annual state budgets. The published state budget for 1955 indicates revenue as follows:[7]

	Billion yuan	Percent
Economic construction	14.2	47.7
Social, cultural, and educational projects	3.9	13.0
National defense	7.2	24.2
Administration	2.2	7.5
Loans and insurance	1.2	4.2
Reserves	1.0	3.4
Estimated surplus	1.4	
Total	31.1	

Expenditures are apportioned as follows:[8]

	Billion yuan	Percent
From taxes	13.7	49.2
From state enterprises	11.1	39.6
From credits, loans, and other sources	3.2	11.2
Balance from 1954	3.1	
Total	31.1	

[3] Peoples China, No. 15, August 1, 1955, p. 5.
[4] Li Fu-chun report, op. cit., p. 20.
[5] Wang, Kuang-wei, A Great Plan. Peoples China, No. 15, August 1, 1955, p. 8.
[6] Ibid.
[7] Wang Ching-Chih, China's 1955 Budget, Peoples China, August 1, 1955, p. 11.
[8] Ibid., p. 13.

The expenditure on economic construction breaks down further as follows:

	Million yuan	Percent
Industry	6,345	45.0
Heavy industry	5,660	89.2
Light industry	685	10.8
Agriculture, forestry, and water conservation	1,297	9.2
Communications and transport	2,129	15.1
Commercial enterprises	2,820	20.0
Other construction	1,481	10.5

Among the distinctions between the 1954 and 1955 state budgets, the expenditure on economic construction during 1955 is 14.8 percent more than in 1954. On the revenue side, receipts from private enterprises dropped from 13.3 percent of the budget income in 1954 to 10.7 percent in 1955. Revenue from state enterprises reportedly increased from 70.5 percent in 1954 to 76.2 percent in 1955.[9]

External assistance

The Sino-Soviet treaty of friendship, alliance, and mutual assistance of February 14, 1950, provided for the transfer of the Chinese Eastern Railway (Changchun Railway) to China and for the return of the naval base at Port Arthur by the end of 1952. The Soviet Union granted China credits of $300 million to be repaid over a 5-year period. The outlay between 1950–53 has been estimated at between 60 and 100 million dollars per annum at 1 percent interest.[10]

In September 1953, an economic aid agreement was announced under which the Soviet Union would provide financial and technical assistance for 141 enterprises (91 new projects and 50 reconstruction projects). These were for the most part projects for development in mining, electric power, chemicals, fertilizer plants, textile plants, and producers goods industries, particularly metals and engineering. Although the total amount of aid under the agreement was not divulged, one unofficial report places it at $1 billion over a 10-year period retroactive to 1950.[11] On October 12, 1954, an increase of $100 million in the original loan was announced and further long-term credits amounting to $130 million were provided for 15 additional industrial projects. These agreements provide that in exchange for machine tools, oil drilling equipment, tractors, petroleum products, and material for industry and transport, China will provide the Soviet Union with tungsten, molybdenum, jute, wool, lead, raw silk, leather, soybeans, rice, vegetable oils, tea, citrus fruit, and cork.

The Soviet Union has sent an estimated 15,000 technicians and military, economic, and administrative advisers to China. These have been reported as operating in the following fields: Metallurgy, coal, oil, chemicals, power, machinery, geology, telecommunications, water conservation, agriculture, education, forestry, communications, transport, public health, finance, trade, and cooperatives.

Four Sino-Soviet joint stock companies were formed in 1950 and 1951: (1) A company to extract nonferrous and rare metals in Sinki-

[9] Ibid., pp. 12–13.

[10] Rostow, W. W., Prospects for Communist China, op. cit., p. 192. In 1953, the Soviet outlay represented only about 2½ percent of the total Chinese capital formation which approximated $4 billion in aggregate terms.

[11] Schwartz, Harry, New York Times, October 5, 1953, quoted in W. W. Rostow, Prospects for Communist China, op. cit., p. 276. Rostow estimates that on this basis aid for the period 1954–59 would be $117 million annually or about double the 1950–53 rate.

ang Province; (2) a company to extract and refine petroleum in Sinkiang; (3) a company to build and repair ships in Dairen; and (4) a company to operate a civil airline between North China and the Soviet Union.[12] By an agreement of October 12, 1954, the Soviet interest in these companies was transferred to China commencing January 1, 1955. Also on October 12, 1954, agreements were concluded for joint participation in the construction of a railway from Lanchow in China through Urumchi to Alma Ata in the Soviet Union and for the construction of a railway from Tsining, China, to Ulan Bator in Outer Mongolia, linking with the railway from Ulan Bator to the Soviet Union. On the same date an agreement was concluded on scientific and technical cooperation. This provided for the exchange of technical data and specialists.[13] In addition to the technical assistance which the Soviet Union has provided within China, Chinese students and technicians have been trained in the Soviet Union.

The report of the State Planning Commission on the first 5-year plan [14] made in July 1955, states that of the 694 major industrial construction projects, the Soviet Union was designing and supervising construction of the 156 projects which form the nucleus of China's industrial development. Soviet participation is described as "beginning with geological surveys, selecting construction sites, collecting basic data for designing, supplying equipment, directing the work of construction, installation, and getting into production, and supplying technical information on new types of products, and ending with directing manufacture of the new products.[15]

The 1955 official report states that economic and technical assistance is also being received from Poland, Czechoslovakia, Hungary, Rumania, and East Germany.[16] These countries are supplying installations for generating electric power, for the chemical industry, mining, textile manufacture, sugar processing, and equipment for photography and printing.[17]

Development programs

The objectives of the major development programs and progress made toward attaining the objectives are summarized:

Industry.—The growth in industrial output was scheduled to reach an index of 198.3 by 1957 (based on 100 in 1952) or an annual average increase of 14.7 percent. Output would increase from 27 billion yuan (equivalent to US$11.4 billion) in 1952 to 53.6 billion yuan (US$22.8 billion) in 1957. The production of state-owned industry would increase more rapidly than that of private industry, so that between 1952 and 1957 private industrial production would decrease from 39 percent to 12.2 percent of the total.

The following increases in rated capacity for selected industrial products are projected in the plan:[18]

[12] For an account of the four joint stock companies see Chang Feng, A New Kind of Economic Cooperation, Peoples China, Feb. 16, 1955.
[13] For agreements of October 12, 1954, see Communique on Negotiations Between China and the Soviet Union and Other Documents, supplement to Peoples China, Nov. 1, 1954.
[14] Li Fu-chun. Report on the First Five-Year Plan for Development of the National Economy, Supplement to Peoples China, August 16, 1955. See also Li Che-jen, Fraternal Aid Speeds the Five-Year Plan. Peoples China, September 1, 1955.
[15] Ibid.
[16] Li Fu-chun, op. cit., p. 47.
[17] Li Che-jen, op. cit., p. 3.
[18] Wang, Kuang-wei, op. cit., pp. 7–8.

	Ultimate increase	By end of 1st 5-year plan (1957)
Iron (annual capacity) ..... tons	5, 750, 000	2, 800, 000
Steel (annual capacity) ..... do	6, 100, 000	2, 530, 000
Electric power (capacity) ..... kilowatts	4, 060, 000	2, 050, 000
Coal (annual capacity) ..... tons	93, 100, 000	53, 850, 000
Metallurgical and mining machinery (annual capacity) ..... do	190, 000	70, 000
Power generating equipment (annual capacity) ..... kilowatts		800, 000
Motor vehicles (annual capacity)	90, 000	30, 000
Tractors (annual capacity)	[1] 15, 000	
Cotton mills (spindles)	1, 890, 000	1, 650, 000

[1] By 1959.

The plan envisages the reconstruction and expansion of existing industrial areas in northeast China; the development of 2 new industrial areas, 1 in the Inner Mongolia autonomous region and 1 around Wuhan in central China; the beginning of industrial construction in southwest China; and the establishment of conditions for further industrialization throughout other areas of the country. In the field of light industry, beginning steps would be taken to move the textile industry from coastal areas into the interior.[19]

The Chinese are prone to report industrial production in terms of percentages or of plants completed, and it is difficult, therefore, to make absolute measurements. The percentage increases are substantial.

During the first 2 years of China's first 5-year plan (1953 and 1954), the Communists claim that the total output value of agriculture and industry increased at the average annual rate of 11.9 percent and that the total output value of industry in 1954 had increased 53.7 percent over 1952. Other increases claimed in production capacity for important industries were reported as: Steel, 427,000 tons; electric power, 530,000 kilowatts; coal, 13 million tons; cement, 650,000 tons; cotton spindles, 700,000. Production increases during the first 2 years were reported as: Pig iron, 65 percent; steel, 65 percent; electric power, 51 percent; cement, 61 percent; and cotton piece goods by 37 percent. Reflecting the shift from private to state-owned industry, the output of state and combined state-private industries rose from 61 percent of the total in 1952 to 75.1 percent in 1954.

Capital goods accounted for 40 percent of all industrial production in 1952 and for 43.8 percent in the first 6 months of 1955.

China's investment during the first 2 years was reported as amounting to 32 percent of the total planned investment for the 5-year period. The amount of external aid utilized has not been reported. The total amount of wages paid throughout China in 1954 was reportedly 56 percent higher than in 1952 while wages of factory and office workers had increased by 14 percent. Peasants' income from agricultural production was reported to have increased 7 percent. Retail sales reportedly increased by 41.7 percent.

In the area of capital construction it was reported that 39 major projects were completed during 1954 while 67 were scheduled for completion during 1955. As of July 1955 a total of 136 major enter-

[19] The First Five-Year Plan of the People's Republic of China for the Development of the National Economy: 1953–57; op cit., ch. III.

prises classified as industrial capital construction had been completed.[20]

The State Statistical Bureau has reported many technological improvements in industry.[21] Among these, new automatic equipment has been installed in 20.6 percent (in terms of capacity) of the power industry; cotton selecting devices and pneumatic cotton absorbers have been extensively installed in the textile industry; the proportion of mechanically cut coal went up 8.2 percent in 1954 over 1953, and numerous advanced methods have been introduced in the steel industry and in the machine-building industry. A résumé is made of the goals and developments in the major industries.

Iron and steel.—China's steel production in 1952 was reported as 1,350,000 tons. The plan calls for a production of 4,120,000 tons by 1957. It is expected that over the period of the first and second 5-year plans (by 1962) steel production will increase to about 10 million tons annually or an increase of 640 percent in 10 years. The ultimate increase in annual capacity is stated as 5,750,000 tons for pig iron and 6,100,000 tons for steel. During the 5-year period ending in 1957, annual capacity in pig-iron production would increase by 2,800,000 tons and steel capacity by 2,530,000 tons.

The plan calls for the reconstruction of the Anshan Iron & Steel Works in Manchuria during the period, the development of a new steel center at Paotow, and for expansion of the steel center at Wuhan by 1962. Paotow in the Inner Mongolian autonomous region is to become the heart of an industrial area in north central China. Wuhan is the tri-city area on the Yangtze in Hupeh Province which at present is the manufacturing and trade center and the transportation hub of central China. It is comprised of the cities of Hankow, Hanyang (where steelworks already exist), and Wuchang. The first-phase projects are to be completed at Paotow in 1962 and at Wuhan in 1961.[22] In addition to the 3 major bases, 4 high-grade steel works and a number of small works will be renovated. Upon completion Anshan will produce annually 2.5 million tons of pig iron, 3.2 million tons of steel, and 2.5 million tons of rolled steel. It is estimated that Anshan alone will produce enough rolled steel to meet the needs for locomotive-building works, shipyards, and motor and tractor works throughout the first 5-year plan and the early part of the second. The output of rails will be sufficient to lay 1,800 miles of railway annually.[23] As of July 1955, 17 of the projects planned at the Anshan Iron & Steel Works reportedly had been completed. These included a heavy rolling mill, a seamless-steel-tubing mill, a sheet-steel mill, 4 automatic-blast furnaces, 8 batteries of coke ovens, an ore-dressing plant, and a sintering plant.[24]

At Paotow the surveying has been completed and construction started on the auxiliary structures around the main site of the integrated plant, while preliminary construction has commenced at Wuhan (Tayeh). Upon completion these 2 plants are expected to increase the output of structural steel by 150 percent and steel ingots by about 300 percent over 1952.[25]

[20] Chi-hsin, Chu, The First Two Years of the Five-Year Plan, op. cit., p. 13.
[21] State Statistical Bureau, communique, op. cit., p. 3.
[22] Wei Yi. The Rate of China's Industrial Growth. Peoples China, October 1, 1955, p. 15, and Li Fu-chun. Report on the First Five-Year Plan for Development of the National Economy, op. cit., p. 11.
[23] Kuang-wei, Wang. A Great Plan. Peoples China, August 1, 1955, p. 7.
[24] Chi-hsin, Chu. The First Two Years of the Five-Year Plan. Peoples China, October 1, 1955, p. 13.
[25] Peoples China, October 1, 1955, and September 1, 1955, and Pravda, September 28, 1953. Li Fu-chun. Report, op. cit., p. 12.

Heavy machinery and engineering.—In emphasizing development of the engineering industry the plan calls for the construction of 9 new major plants and for the renovation or expansion of 15 existing plants. Two heavy-machinery plants are to be built, one at Taiyuan and the other at a location as yet not disclosed. Upon completion these two plants are to have a capacity for producing annually sufficient ironsmelting, steelmaking, rolling-mill, and coke-oven equipment to equip an integrated steel works having an annual capacity of 1,600,000 tons.[26]

In addition to the two heavy-machinery-building plants there is to be a mining-machinery plant, a petroleum-machinery plant, and a pneumatic-tools plant. In all there are 80 important projects designed to establish a foundation for China's machine-building industry. During the first 5 years primary emphasis is laid on the development of the manufacture of metallurgical equipment, electric-generating equipment, mining equipment, transportation and agricultural machinery and metal-cutting machines.

Work has been completed on the Harbin Measuring Instrument & Cutting Tools Works, the Northeast Electrical Equipment Plant at Harbin, the Shenyang Low Voltage Switch Gear Factory, and the Shenyang Pneumatic Tool Factory. Progress is reported on other machine-tool plants, a motorcar works, a factory for making telecommunications cables, and a shipyard. A tractor plant having an annual capacity of 15,000 tractors of 54 horsepower is being constructed but will not go into operation during the period.[27]

Coal mining.—The ultimate increase in annual capacity for coal production is set at 93,100,000 tons, with an increase of 53,850,000 tons by 1957. Actual production of coal would increase from 63.5 million tons in 1952 to 113 million tons in 1957 (1.8 times). During the period 194 major construction projects are to be undertaken, and 31 new coal-mining enterprises are to be built. The annual capacity of the 5 largest enterprises are to reach the following level by 1957: (1) Fushin Mining Administration (8,450,000 tons), (2) Kailan Mining Administration (9,680,000 tons), (3) Tatung Mining Administration (6,450,000 tons), (4) Huainan Mining Administration (6,850,000 tons), and (5) Fushun Mining Administration (9,300,000 tons) [28]—a total of 40,730,000 tons.

Textiles.—During the 5-year period 39 textile mills are to be built. The ultimate increase in cotton spindles is set at 1,890,000 spindles, of which 1,650,000 spindles are to be added by 1957. The production of cotton piece goods is expected to increase from 111,630,000 bolts in 1952 to 163,720,000 bolts in 1957. During the 5-year period construction will commence on 19 mills under the Ministry of Textile Industry and 19 mills by local enterprises or joint state-private enterprises. The principal new cotton mills are being built in Chengchow, Shihchiachuang, Peking, and Sian. With the exception of the Peking mill, all are being equipped with machinery produced in China. Machinery for the Peking mill, which will have 80,000 spindles and 3,600 looms, is being secured from East Germany.

The new flax mills, having a combined annual capacity of about 1,800 tons, went into operation early in 1955. The mills, equipped

[26] Li Fu-chun. Report op. cit., p. 12; and Ronald Hsia, op. cit., pp. 30–41.
[27] Peoples China, September 1, 1955, p. 23. Li Fu-chun. Report, op. cit., p. 13. State Statistical Bureau Communique, op. cit., p. 3. Li Fu-chun report, op. cit., p. 12. Ronald Hsia, op. cit., p. 41.
[28] Ibid (Li Fu-chun), p. 12; and The First Five-Year Plan, op. cit., pp. 17–19.

with Soviet automatic machinery, are located at Hulan and Yacheng near Harbin.[29]

Electric power.—The plan sets a target of an ultimate increase in annual capacity of 4,060,000 kilowatts, with an increase of 2,050,000 kilowatts by the end of the 5-year period. Production would increase from 7,260 million kilowatt-hours in 1952 to 15,900 million kilowatt-hours in 1957. During the 5-year period the plan calls for the construction of 107 major power industry construction projects. These consist of 92 powerplants and 15 power-transmission projects. Among the plants to be built during the period are 76 thermal power stations, of which 15 reportedly have a capacity of more than 50,000 kilowatts each.

A total of 16 hydroelectric projects are ultimately envisaged. During the 5-year period work will commence on the powerful hydroelectric plant at Sanmenhsia in the Sanmen Gorge. Also during the period the Fengman hydroelectric plant, China's largest existing plant, is to be renovated and automatic equipment installed with Soviet assistance. Upon completion, it will have a capacity of more than 560,000 kilowatts. In addition to the powerplants the establishment of 10 high-tension power networks is planned.

Important projects under construction or recently completed include 9 thermal powerplants, the reconstruction of 4 thermal powerplants, and 3 hydroelectric plants. New powerplants are being built in Sian, Lanchow, Tihwa, Chengchow, Taiyuan, Paotow, Chungking, Tayeh, and Tsitsihar. Existing thermal plants in Fushun, Fuhsin, Harbin, and Dairen are being renovated and expanded. The Sian plant is expected to increase power supply in the northwest by 50 percent.[30]

An ultimate increase of 800,000 kilowatts is planned in power-generating equipment, with all projects to be completed by the end of the 5-year period. The production of generators would increase from 30,000 kilowatts in 1952 to 227,000 kilowatts in 1957. Production of electric motors would increase from 640,000 kilowatts in 1952 to 1,050,000 kilowatts in 1957.

Other industries.—The increases in annual capacity for some other industries to be accomplished by the end of the first 5-year plan have been stated as follows:[31]

Metallurgical and mining machinery: Ultimate increase in capacity 190,000 tons; by the end of the 5-year period, 70,000 tons.

Chemical fertilizers.—Ultimate increase 910,000 tons. By the end of the 5-year period, 280,000 tons. During the 5-year period, 5 nitrogen fertilizer factories to be established. The chemical factory at Dairen being equipped with Soviet machinery is reported to have a capacity for producing potash three times that of China's other chemical plants.

Cement.—Ultimate increase in capacity, 3,600,000 tons. By the end of the 5-year period, 2,360,000 tons. Production to increase from 2,860,000 tons in 1952 to 6 million tons in 1957.

[29] Li Fu-chun. Report, op. cit., p. 12; Ta Kung Pao Hongkong, May 11, 22, 1953, cited in Ronald Hsia op. cit., p. 42; and American Consulate General Hong Kong, economic report, May 26, 1955, p. 10. Construction was begun on the state-owned cotton mill at Shihkiang early in 1955. The mill will have 100,000 spindles; work also has commenced on a new joint public-private cotton mill having 50,000 spindles. The factory buildings for the 100,000-spindle northwest No. 4 cotton-spinning and weaving mill at Sian were completed early in 1955.

[30] Li Fu-chun, op. cit., p. 13; Ronald Hsia, op. cit., p. 39; and The First Five-Year Plan, op. cit. pp. 14–17.

[31] Li Fu-chun. Report on the First Five-Year Plan for Development of the National Economy, op. cit., p. 13, and Soviet Weekly, July 9, 1953; and Ronald Hsia, op. cit., pp. 42–43.

Nonferrous Metals.—While specific goals are not stated, the redevelopment of aluminum production in Fushun and doubling the capacity of the Kochiu Tin Co. in Yunnan are reported.

Petroleum.—The target for added crude oil production capacity during the 5-year period is stated as 1,520,000 tons or an increase of 4.2 times the 1952 level. In the 5-year period crude oil production is expected to show an average annual increase of 35.8 percent while production of gasoline would show an average annual increase of 30.6 percent. There are 13 major construction projects of which 9 are to be completed during the 5-year period. Two are designed by the Soviet Union. China's efforts to increase petroleum production are centered on geological surveys and drilling in Kansu, Sinkiang, Szechuan, and Tsinghai, expansion of production in the existing Yumen and Sinkiang oil fields and increasing production of shale oil at Fushun.

Rubber.—Goals are not stated. It is reported, however, that two new plants are being built, one for the manufacture of automobile tires, the other for manufacture of other rubber products. The capacity of the two existing plants is to be doubled.

Machine-made paper.—Ultimate increase in capacity 560,000 tons. By the end of the 5-year period, 95,000 tons. Production to increase from 370,000 tons in 1952 to 650,000 tons in 1957. The two new paper mills are located in Hupeh and at Kiamusze. Twelve existing paper mills are being renovated, including the large Canton Paper Manufacturing Co.

Machine-processed sugar.—Production to increase from 249,000 tons in 1952 to 686,000 tons in 1957. A large modernized sugar factory in Kweihsien in Kwangsi Province will be capable of processing 1,500 tons of sugarcane daily. Another plant is located in Suihsi in Kwangsi and four new refineries are being built in Kwangtung Province.

Transport and communications.—Under the plan investment in transport and communications is second only to investment in industry. Of the total amount allocated for capital construction (42,740 million yuan) 19.2 percent or 8,206 million yuan (equivalent to US $3,491 million) is earmarked for transport, ports, and communications.[32] This is supplemented by a portion of the 33,900 million yuan (US$14,426 million) allocated for activities in support of capital construction. The total amount allocated for transport alone has been stated as 7,849 million yuan (US$3,467 million).[33] It was reported that under the 1953 budget the expenditure on development of communications and transportation increased 65 percent over that of 1952 [34] and in 1954 was 43 percent over that of 1953.[35]

Of the initial goal of 124,274 miles of railway announced early in 1953, 6,214 miles were to be constructed by 1957.[36] Low efficiency lines being rebuilt would total 430 miles.[37] Other targets for the

[32] Li Fu-chu, Report on the First Five-Year Plan, op. cit. p. 10, and the First Five-Year Plan, op. cit. p. 30-32.

[33] Shou-tao, Wang. How China Is Modernizing Her Transport. Peoples China, September 16, 1955. Under the Sino-Soviet agreement of 1950, providing for a credit of $300 million to China, there was included a credit for "railway and other transport equipment, rails and other material for the restoration and development of the national economy of China."

[34] New York Times, July 27, 1953, quoted in E. Tu Zen Sun, The Pattern of Railway Development in China, The Far Eastern Quarterly, February 1955.

[35] China Peoples Government State Statistical Bureau. Communique on National Economic Development and Fulfillment of the State Plan in 1954, September 21, 1955. Supplement to Peoples China, November 20, 1955.

[36] E. Tu Zen Sun, The Pattern of Railway Development in China, op. cit. p. 095; Li Chang, Railway Construction in China, The Far Eastern Survey, March 25, 1953 and Wan Shou-tao, How China Is Modernizing Her Transport, op. cit. p. 15.

[37] The First Five-Year Plan, op. cit. p. 31.

period are the construction of 6,200 miles of new roads, the acquisition of 400,000 metric tons of new shipping and the extension of civil airlines by 10,700 miles. By 1957 rail freight handled would be increased 101 percent, inland shipping 321 percent, coastal shipping 190 percent, motor freight 373 percent and civil air freight 231 percent over 1952. Capacity for the manufacture of motor vehicles would be increased to 30,000 vehicles annually by 1957.[38] By 1957 the Peking-Chengehow Railway, the railway from Shihchiachuong to Yangchuan, the railway from Chengchow to Loyang, and from Chengchow to Hankow would be double tracked.

A conspicuous element of the railway construction program is the priority being given to the economic development of China's deep interior in the northwest and southwest (see map, facing p. 1). Elsewhere the construction of new rail links is closely tied in with industrial development plans. The present rail link with the Soviet Union through Manchuria is being augmented by two new railways, one through Outer Mongolia and the other through Central Asia. One line connects with the Tientsin-Paotow line at Tsining (or Chining near Kweisui) and extends to Ulan Bator in Outer Monoglia. Here it links with the established line which forms a connection between Ulan Bator in Outer Mongolia and Ulan Ude on the Trans-Siberian Railway in the Soviet Union. By the end of 1954 track had been laid on the Chinese section of this line between Tsining and Ehrlien and the entire line was reported completed in September 1955. The other projected connection with the Soviet Union will extend a distance of 1,692 miles from Lanchow in north central China westward through Sinkiang Province to connect with the Turkestan-Siberia Railway at Alma-Ata in the Soviet Union. Track on this line has been laid beyond Chiupa and is expected to reach the Yumen oilfields in 1956.[39] Lanchow is also the centrum for other important lines under construction or recently completed. A 680 mile line between Lanchow and Paotow will provide a rail outlet to the south for the heavy industry center of Paotow and will bring the provinces of Suiyuan, Ninghsia, and Kansu into closer economic contact with the rest of China. A line linking Lanchow with the Lunghai Railway at Tienshui was completed in September 1952.

Another important line which will link northwest and southwest China is that from Paochi on the Lunghai Railway southward to Chengtu. This is expected to be open to traffic by the end of 1956. From Chengtu one line is projected to Kunming where it will link with the Yunnan-Indochina Railway. Another line will run from Chengtu to Kweiyang via Chungking. This line will connect in Kweiyang with the Canton-Hankow Railway upon completion of the projected Hunan-Kweichow Railway. It will also connect with the line which was completed in November 1951, between Laipim and Chennankwan on the Indochina border. Elsewhere, railway lines from Litang in Kwangsi Province to Chanchiang in the Leichow Peninsula opposite Hainan Island and from Fengtai to Shacheng in Hopei Province were opened to traffic during 1955. Construction is in progress on a line from Yingtan in Kiangsi to Amoy in Fukien

[38] Wang, Shou-Tao, op. cit. p. 15, and Li Fu-chun. Report on the First Five-Year Plan for Development of the National Economy, op. cit. p. 16. See also Peoples China August 16, 1956, p. 24.

[39] In December 1955 it was reported that tracks were laid to a point of 378 miles west of Lanchow. Yumen is 180 miles further northwest. See Henry R. Lieberman, New York Times, December 28, 1955, p. 8.

Province and on the Peking-Chengteh line which will link Peking with the northeast. Work has started on the Yangtze River Railway and highway bridge at Wuhan which will link the Peking-Hankow Railway with the Hankow-Canton Railway. Two important highways, the Sikang-Tibet (1,400 miles) and the Chinghai-Tibet (1,300 miles) were opened to traffic during 1954.

By 1954, a total of 870 miles of railway had been laid. A total of 3,621 miles of roads were built during 1954. Targets were reported exceeded in rail freight tonnage, turnaround rate, and coastal and river shipping. Air freight increased by 31 percent over 1953 and the volume of post and telecommunications services by 9 percent.[40] Percentage increases during 1954 over 1952 have been reported as: rail freight (ton-miles) 55 percent; passenger transport (passenger miles) 45 percent; motor freight (ton-miles) 175 percent; inland and coastal shipping (ton-nautical miles) 85 percent.[41]

Agriculture

The comparative lack of emphasis upon agriculture under the first 5-year plan is reflected in the allocation to agriculture, water conservancy, and forestry departments of only 7.6 percent (3,260 million yuan—equivalent to US$1,344 million) of the total outlay for capital construction. Nevertheless, under the plan, the total output value of agriculture and subsidiary rural production would increase by 23.3 percent over 1952, an average of 4.3 percent per year, to a total of 59,660 million yuan (US$25,451 million) in 1957. Grain production in 1957 would be 192.8 million metric tons (an increase of 17.6 percent). The 1957 target for production of cotton was set at 1,635,000 metric tons (an increase of 25.4 percent); cured tobacco 390,000 metric tons (76.6 percent); jute 365,000 metric tons (19.7 percent); sugar beets 4,707 million pounds (346.4 percent), and oil-bearing seeds by 37.8 percent in sown acreage.

Actual production is behind this schedule, due at least in part to floods in the Yangtze and Huai River Valleys in 1954. The harvest in 1954 was claimed to be 3.4 percent higher than in 1952.

Although the plan calls for expansion of the area under cultivation by 6,447,000 acres by 1957, large-scale reclamation is not to be undertaken until the second 5-year plan. During the present period some 16.6 million acres of uncultivated wasteland are being surveyed and plans developed for the reclamation of 6.6 to 8.3 million acres of uncultivated land. The area of irrigated land would be extended by 6,370,000 acres during the period.

Technical improvements in agriculture include the introduction of improved implements and seeds and measures for the elimination of plant diseases and insect pests. Efforts are to be made to increase the acreage under high yield crops and double croppings to be expanded where conditions permit.[42] Centers for instruction in scientific agriculture would be established in each district (Chu). It was reported that by 1955 instruction centers had been established in 11 percent of the districts.[43] Among the objectives of the plan, the incorporation

[40] Peoples Republic of China, State Statistical Bureau. Communique on National Economic Development and Fulfillment of the State Plan in 1954, April 21, 1955. Supplement to Peoples China, No. 20, 1955.
[41] Chu Chi-hsin. The First Two Years of the Five-Year Plan. Peoples China, October 1, 1955, p. 14.
[42] Li, Fu-chun, report op. cit., p. 14, 26–30, and Peoples China, August 1, 1955, p. 9, and The First Five Year Plan, op. cit., pp. 26–29.
[43] Chang, Lin-chin, A Five-Year Plan for Increasing Agricultural Output. Peoples China, September 16, 1955, p. 7.

of about one-third of China's 110 million peasant households into agricultural producers cooperatives has been described as—

> A first step toward Socialist transformation of agriculture, one of tremendous significance for development of agricultural production, for restriction and gradual elimination of rich-peasant economy and the drawing of agriculture into the orbit of the state plan.[44]

The plan does not set a timetable for collectivization but Communist leaders have outlined the objectives. In his report to the First National Peoples Congress, Premier Chou En-lai stated: [45]

> The growth of agriculture obviously falls behind the needs of the people and the state for agricultural produce. In order that agriculture may develop more quickly and in a more planned manner, we must gradually carry out the Socialist transformation of agriculture. That is, to change backward individual farming step by step to collective farming by organizing the peasants into mutual-aid teams and cooperatives on a voluntary basis.

Chou estimated that in August 1954 some 60 percent of all peasant households were members of the mutual-aid teams and that producers cooperatives (the more advanced stage of collectivization) had 100,000 members. Half of the peasant population would be members by the end of the first 5-year plan.

The Vice Premier, Teng Tzu-hui, has described the collectivization process as falling into two stages: [46] In the first agricultural producers cooperatives would be formed which are described as partial collective ownership in which the peasant invests his land as a share. He retains title to the land even though control is relinquished to central management. In the second stage there would be complete relinquishment of land to collective ownership.

Among the accomplishments claimed, it is reported that by 1954 more than 50 million acres under grain and oil-bearing crops had been sown with better strains. More than 8 million acres had been sown to high-grade cottonseed.

At the end of 1954, there were 2,400 state farms of which 97 were mechanized. A year later there were 117 mechanized state farms with 713,000 acres under cultivation. A total of more than 1,900,000 additional acres of land had been brought under cultivation. At the end of 1954, there were 89 tractor stations; at the end of 1955 there were 106. During the winter of 1954 and spring of 1955 more than 500,000 farming cooperatives were formed. It was reported in September 1955 that a total of 650,000 farming cooperatives had been formed embracing 14 percent of all peasant households. Wasteland reclaimed during 1955 totaled 1,647,000 acres; almost 3 million acres had been afforested and 2,305,800 additional acres had been brought under irrigation.[47]

It was reported that as a result of the organization of farming cooperatives the average annual per capita expenditure of the rural population on consumer goods increased from 31.1 yuan (equivalent to US$13.23) in 1952 to 42.8 yuan (US$18.21) in 1954.

Notwithstanding the reported increases in agricultural production, as of the middle of 1953 food remained scarce with the Communist

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[44] Wang, Kuang-wei, Peoples China No. 15, August 1, 1955, p. 9; see also same issue, p. 3.

[45] Chou, En-lai, report on government work (presented at the first session of the First National Peoples Congress, September 23, 1954), Peking New China News Agency, September 24, 1954.

[46] Teng, Tzu-hui. Report on the Socialist transformation of agriculture made to the First National Peoples Congress. Peking New China News Agency, September 23, 1954.

[47] Wang, Ching-chih, China's 1955 budget, Peoples China, August 1, 1955, and statistical bureau communique, September 21, 1955; and Chang Lin-chih, a Five-Year Plan for Increasing Agricultural Output, op. cit., p. 7.

government admitting that nearly 150 million peasants were short of grain in varying degrees. During 1955 grain production quotas were increased, marketing controls tightened, and the people exhorted to produce more and consume less.

River developments

Plans for river development including water conservation, flood control, irrigation projects, and the development of hydroelectric power are projected beyond the period of the first 5-year plan. As a result of the disastrous floods in 1954 an initial emphasis has been placed upon flood control. Dikes have been reinforced and raised along the middle and lower reaches of the Yangtze, Huai, and Yellow River systems. Five reservoirs on the Huai River system have been completed, another is scheduled for completion in 1956, and work is in progress on a seventh. Together, these 7 reservoirs will store an estimated 26 billion cubic yards of water.[48] During the period of the first 5-year plan, plans are to be developed for long-range projects on the Yangtze and Han Rivers. To date about 9,000 miles of the Yangtze and its tributaries including the Han River system have been surveyed.[49]

The Yellow River flows for more than 2,980 miles through 7 provinces. In the past its floods have caused more damage than those of any other river in China. The multipurpose plan for controlling the Yellow River and for the development of its resources, which will begin during the period of the present plan, is expected to take 50 years for completion, but the first phase is scheduled to be finished by 1961. The plan, which was completed in 1954 with the aid of Soviet technicians, proposes to control the waterflow, remove silt, and eliminate the traditional shifting of the main channel of the Yellow River. Forty-six dams on the main river and 24 reservoirs on its tributaries will retard the flow of silt and will permit the release of water in controlled quantities for irrigation and the generation of electric power. The total area to be irrigated by the Yellow River system will be increased from 2.7 million acres to 19.1 million acres. The distance navigable by steamships will be extended to 1,115 miles. Hydroelectric power capacity will total 23 million kilowatts with annual output of electricity estimated at 110 billion kilowatt-hours. The two principal hydroelectric stations are to be located in the Liukai Gorge west of Lanchow and the Sanmen Gorge above Loyang. The flood-control project at Sanmen Gorge is scheduled for completion by 1960 and the hydropower station by 1961. It is expected that the Sanmen power station will supply all of the electricity needed by the industrial cities of Honan, Shensi, and Shansi Provinces.

The Kuanting Reservoir, which was completed in 1954, has a water storage capacity of 2,300 million cubic meters and is expected to play an important role in preventing floods in the lower reaches of the Yungting River.[50]

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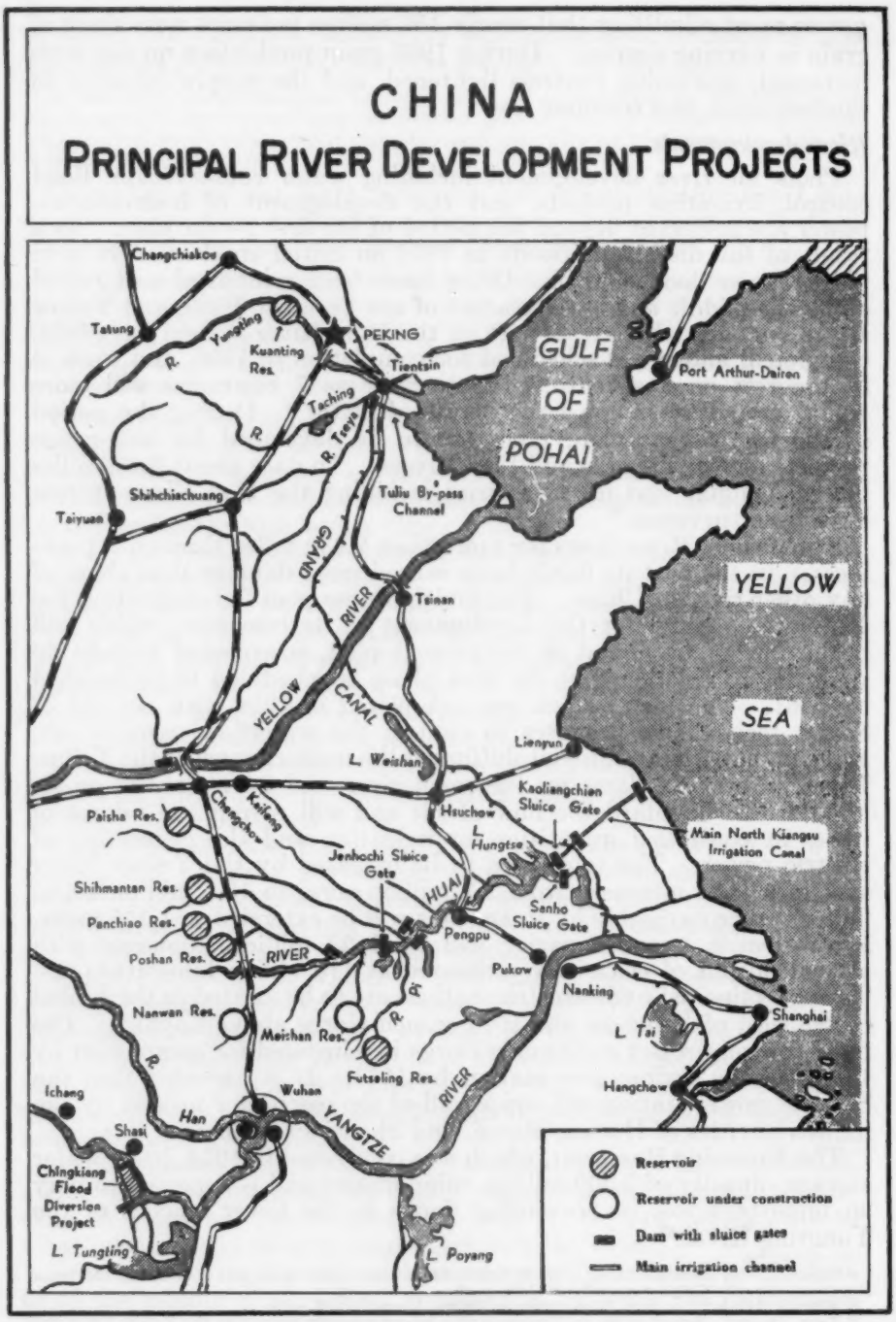
[48] Hung Ya. To Prevent Floods. Peoples China, September 1, 1955, p. 24, and Liao Chien. Meishan Reservoir. Peoples China, September 16, 1955, p. 19.

[49] Wang Kuong-wei: A Great Plan. Peoples China, August 1, 1955, p. 10.

[50] Teng, Tse-hui. Report on the multipurpose plan for permanently controlling the Yellow River and exploiting its water resources. Supplement to Peoples China, September 1, 1955, and Li Jui, China's Sorrow Will Be No More—The Taming and Exploiting of the Yellow River, Peoples China, August 16, 1955, p. 9, and Li Fu-Chun, report, op. cit., p. 13.



SOURCE: People's China, Jan. 16, 1955

Public health and education

Among the goals in the social fields the plan calls for a 77-percent increase in hospital beds and for 74 percent more doctors. In the first 2 years, there was an increase of 34 percent in hospital beds. The total hospital beds in 1954 numbered 190,000.

The plan calls for enrollment in higher educational institutions to increase 127 percent from 1952 to 1957 to a total of 434,000 students. By 1954, the increase amounted to 33 percent. Of 47,000 university graduates in that year, 33 percent were engineering students.

In secondary schools, the goal for 1957 is 724,000 senior middle students (an increase of 178 percent over 1952) and 3,983,000 junior middle students (an increase of 78.6 percent). The reported figures for 1954 are not precisely comparable. They show 608,000 students in secondary trade schools and 3,580,000 in other secondary schools. The latter figure was said to represent an increase of 22 percent over 1953.

The plan's goal for elementary schools is an enrollment of 60,230,000 by 1957, an increase of 18 percent over 1952. In 1954, elementary enrollment was 51,200,000.[51] Overall, the plan contemplated that more than 70 percent of school age children will be attending school by 1957. Provision is also made for an expansion of scientific research. Twenty-three new research establishments would be added to the Academia Sinica and an additional 3,400 research staff members would be added.

During the 5-year period 4.2 million additional people would be added to employment rolls. Average wages for factory and office workers would be raised 33 percent. Funds disbursed by State enterprises for employment insurance, medical care, welfare, cultural and education facilities for their personnel would exceed 5,000 million yuan (equivalent to U. S. $1,760 million). State housing programs for office and factory workers call for the construction of 495,144,000 square feet of housing.[52]

B. CHINA'S SECOND 5-YEAR PLAN

No comprehensive official statements or reports have been made on China's second 5-year plan. On the basis of the long delay in announcing the first 5-year plan and the continuing changes in both the organization for planning and plan targets, unofficial pronouncement on the second 5-year plan are considered speculative at present.

V. Summary Comparisons

A. THE INHERITED ECONOMY

A comparison of the economies of India and China at the time the two countries embarked upon their economic development programs reveals many basic likenesses. They shared large populations, high population density and the pressure of increasing population. Agriculture accounted for a high percentage of the national output. Agricultural production, however, was insufficient to meet domestic needs. Although intensive methods of cultivation were used, both

[51] Statistical Bureau Communique, September 21, 1955.
[52] Li Fu-chun, Report, op. cit., p. 17 and The First 5-Year Plan, op. cit. p. 35-38.

countries felt the need for such scientific improvements as seed selection, improved fertilizers and improved farming methods. Both recognized the need for bringing new land under cultivation and for large scale irrigation and water storage projects. In both countries the lot of the farmer was hard. The percentage of absentee landowners was high, land rents were high, and interest rates on loans to farmers were exorbitant.

An imbalance existed between agriculture and industry. For the most part industrial development had hardly progressed beyond the stage of agricultural processing plants, light consumer goods factories and establishments along the coast identified with western trade and commerce. The outstanding exception in both countries was the comparatively advanced development of the textile industry. Some slight beginnings had been made in the development of heavy industry. In China the existing iron and steel industry had been mainly developed by Japan and was centered in Manchuria.

In both countries railway and highway communication were underdeveloped with consequent segmentation and a high degree of local self-sufficiency. Although this inadequacy of communications intensified the effects of periodic famine in isolated areas of both countries. On comparison, railway communications were much more highly developed in India than in China.

The low level of national and per capita income in both countries was evident in the prevailing poverty. There existed in both countries persistent inequalities in the distribution of wealth and income. Reflecting the state of stagnation of the economy, the rate of capital formation in both countries was extremely low.

B. BASIC RESOURCES

Not only did India and China share these many likenesses in their economic position, but at the time they embarked upon their economic development programs they had a near equal resource base for industrialization. Both possess adequate supplies of coal, iron, and alloy minerals. India has some slight advantage perhaps in having a higher grade of iron ore than does China and in having iron deposits located close to the coal deposits. There is little evidence of any distinction between the two countries in terms of such intangible factors as a national will for economic development, the degree of technical and managerial ability, or human capacity for coping with the myriad problems to be faced.

C. THE INSTITUTIONAL SETTING

Economic development in both countries is being undertaken concurrently with the development of new political and social institutions. The immediate historical background in India is that of independence from colonial status gained by peaceful means; in China, the violent overthrow of the preexisting government. The method in India has been that of evolution, while China has relied on the processes of revolution. India's political institutions reflect a synthesis of the political heritage of the western democracies while those of China represent a transitional form of Communist totalitarianism.

The diverse institutional settings of the two countries have a direct impact upon economic development. China's stated aim is state socialism involving the scheduled expansion of state ownership and reduction of private ownership in all areas of production and distribution. In agriculture the aim is to supplant private ownership through collectivization. India's stated aim is to develop the economy on the basis of private ownership but with state ownership of enterprises beyond the capacity of private industry or vested with an overriding public interest. In China, both economic planning and the execution of the plan are highly centralized. In India the Central Government assumes the leadership but relies heavily upon the states, the people and upon private industry both in planning and in operations. While both governments have taken extensive measures for the education of the people, in China the government since attaining power has utilized mass indoctrination media, mass shock treatment, mass re-education or "brainwashing," purges and mass liquidations, all of which have been on the basis of fiat, ordinance, or decree from the top down. The method in India has been through presentation of the facts, free discussion and persuasive leadership. As applied to economic development the distinction has been one of enforced decree in China compared with the patient eliciting of cooperation in India. In contrast to India the political and social philosophy of Chinese communism permits a greater disregard of the immediate welfare of the population in the interest of attaining long-range objectives. In economic development this is reflected in China's great emphasis upon the development of heavy industry to the comparative neglect of consumer goods, agriculture and community development. India's development program places a greater emphasis upon immediate benefits to the people at the sacrifice of more rapid industrialization. This basic philosophical difference is further evident in the mass requisitioning of human labor and the use of political prisoners in China for public works as compared with the use of free labor in India. This distinction makes possible the more rapid rate of industrial development envisaged by China.

In comparing economic development in the two countries, then, the differences stem not so much from the preexisting economic situation as from the sociopolitical context in which economic development has been conceived by each. This is reflected in distinctions in goals and objectives, priorities, tempo of development, and in the means by which the objectives are to be attained.

D. DISTINCTIONS IN ECONOMIC GOALS

While India is trying to achieve a balanced development, China has placed the predominant emphasis during the first 5-year plan upon industrialization. Further, India's industrialization programs are balanced as between light and heavy industries while the bulk of China's investment is in heavy industry. India is investing new capital in selected consumer goods industries while China for the time being is only modestly expanding these industries. The Indian Planning Commission is attempting to bring about a gradual but continuous rise in real per capita income or average standard of living simultaneously with the development of the industrial base. China, on the other hand, has sacrificed an immediate rise in the standard of

living in the interest of more rapidly developing heavy industry which is considered basic to later development of the consumer-goods industries.

This basic distinction between India's balanced development and China's concentration on industrial development poses difficulties in making across-the-board comparisons. For example, there is no exact counterpart in China to India's community development program with its many benefits to the rural population. Likewise in India there is no counterpart to China's organization of producers cooperatives and other measures precedent to collectivization. India has already made great advances in the large multipurpose river-development schemes while China for the most part has only conducted surveys and developed blueprints. While India has made great progress in land reclamation and irrigation China proposes to embark upon its large-scale irrigation and land-reclamation programs at a later date. China's interim effort to control floods on the Huai, Yangtze, and Yellow Rivers by reinforcing dikes does not readily lend itself to comparison with India's development of multipurpose dams and canal systems.

Among other pitfalls confronting any attempt to make precise and detailed comparisons of economic development programs are: (1) Both countries have some programs which are unique. (2) Goals are stated in different terms. (3) India's plan is reasonably firm for the 5-year period while China's plan has been undergoing constant revision. China apparently places a greater emphasis upon 1-year plans within the 5-year plan than does India. At the same time China states more goals in 10-year or even 50-year terms. (4) While both countries include development programs commenced prior to the first 5-year plan, it is difficult, particularly in the case of China, to discern from published reports and statistics that portion of the accomplishment completed during a given period. (5) Both in the stated plans and in the state budgets differences in the grouping of programs and functions make for noncomparability. (6) Those statistics which might be comparable (i. e., miles of railway track laid), often give little indication of actual accomplishment (in this instance comparison of terrain, bridges per mile, supporting developments making the achievement possible, parallel social factors such as free labor versus slave labor, wages paid, housing, health measures etc.). (7) Apart from factors affecting comparability, differences often exist in the statistical reporting of accomplishments, i. e., absolute figures as compared to percentage of a goal. Prior to 1954 China's statistics were not quoted in absolute terms but as percentages. (8) In view of China's greater population absolute achievements are placed in a different perspective when translated to a per capita figure. For the most part then, comparisons which have been made note differences in objectives and achievements rather than relative progress in comparable areas of development.

Distinctions in the broad economic objectives of the two countries are reflected in a comparison of the percentage distribution of expenditures for development among the various sectors of the economy as shown in the following table:

Percentage distribution of expenditures for economic development—India and China

INDIA (1951–56)	Percent	CHINA (1953–57)	Percent
Agriculture and community development	17.5	Agriculture	7.6
Irrigation	8.1		
Multipurpose irrigation and power projects	12.9		
Power	6.1		
Transport and communications	24.0	Transport, posts, and communications	19.2
Industry	8.4	Industry	58.2
		Urban public utilities	3.7
		Trade and stockpiling	3.0
Social services	16.4	Culture, education, and health	7.2
Rehabilitation	4.1		
Miscellaneous	2.5	Other items	1.1

Source: India: Planning Commission, The First Five-Year Plan, A Summary, New Delhi, 1952. China: Li Fu-chun, Report on the First Five-Year Plan for Development of the National Economy. Supplement to Peoples China, August 16, 1955. NOTE.—The percentage distribution for India applies to the entire investment. The distribution for China applies only to outlay for capital construction or 55.8 percent of the total investment. The remaining 44.2 percent is to be expended for activities in support of capital construction.

E. RATE OF DEVELOPMENT COMPARED

India's total expenditure on economic development during the first 5-year plan was Rs21.1 billion or US$4.4 billion. China's total expenditure for the 5-year period is planned at 76,640 million yuan or US$32.6 billion.[53]

While estimates vary with respect to the percentage of the national income invested in economic development, the ratio is higher in China than in India. The Indian Planning Commission goal was investment of 6.75 percent of the national income by the end of the first 5-year plan.[54] Indian Government figures indicate capital formation amounted to 5.9 percent of the national income in 1955–56. Other estimates of Indian investment vary from less than 3 percent [55] to 8 percent.[56]

China's official reports make no mention of the ratio of investment to income. Wu and North estimate 7 percent. Rostow and associates place it at 12 percent in 1952, increasing to 20 percent in 1962. Mr. T. Bologh, a British economist who is guest lecturer at the University of Delhi, has estimated that China had surpassed an investment rate of 8 percent of the national product and should approach 12 percent during 1955.[57] While these analysts have used different bases for comparison and while there are many statistical obstacles to precise international comparison, the estimates nevertheless seem to indicate the somewhat higher rate of investment in China.

Economic analysts and commentators have concluded that this higher rate is made possible by a variety of reasons. One author states that—

[53] The dollar equivalent of China's expenditure is based on the exchange rate of 2.355 yuan to the dollar, a midway rate between the 1953 buying and selling rate.
[54] Planning Commission, First Five-Year Plan, New Delhi, 1953, p. 15.
[55] Wu, Yuan-li and Robert C. North. China and India: Two Paths to Industrialization. Problems of Communism, May-June, 1955, p. 13–18.
[56] W. W. Rostow, Prospects for Communist China, op. cit. pp. 279, 284. The figure for India relating to the share of gross investment to gross national product is quoted from Mukharjee and Ghosh, The Pattern of Income and Expenditure in the Indian Union, a Tentative Study, Bulletin of the Internation Statistical Institute, 1951.
[57] Bologh, T., Which Way Asia, India's Way or China's? The Nation, March 19, 1955, p. 237.

in the best of circumstances, India can hardly hope to equal the rate of development in China. The ruthless liquidation of the upper class; the capacity to disregard or to overcome by police action or by massive indoctrination, customs and traditions which hamper progress; an incentive mechanism which does not stop at the "sack" or promotion, all these give China immense material advantages.[58]

In China the entire machinery of the state has been geared to the mobilization of economic resources. China's extensive use of prison and other forced labor as compared to India's free labor has been cited as an important factor making China's higher investment rate possible.[59] China's taxes and the many controls over production, distribution, and consumption, including rationing and enforced grain collections, have been noted. The 1955 reconversion of currency has been mentioned as a device through which the Chinese Communist government was able to enforce a higher scale of personal savings. But perhaps the most often cited explanation is that China's greater investment is made possible simply on the basis that investment in capital construction is at the expense of expanded production of consumer goods; that while the Chinese consumer is forced to submit to austerity standards, in India there has in fact been a gradual increase in per capita consumption.[60]

To determine in fact the extent of the deprivations to the consumer in China would appear to be a matter of judgment in the acceptance of conflicting reports. On the one hand there are periodic reports of resistance to government decrees and enforcement measures. The downscaling of production targets in the 5-year plan as it was finally promulgated has been interpreted as a partial concession to the consumer and recognition of the dangers of enforced austerity. The numerous exhortations of party and government officials for greater production and more sacrifices have been interpreted as revealing resistance to austerity. Countering these conclusions are statements by the Chinese Communists claiming that the average annual per capita expenditure of the rural population on consumer goods increased from 31.1 yuan in 1952 to 42.8 yuan in 1954;[61] that the average wages of workers and staff would be raised by 3.3 percent during 1955;[62] that wages of government cooperative and joint state-private enterprises employees will be raised by an average of 33 percent by 1957;[63] that "the tremendous achievements of the state in balancing revenue and expenditure and stabilizing commodity prices had a marked influence on the rapid rehabilitation of the national economy and improvement of the people's life;"[64] and, that the total value of retail sales of commodities of all kinds will reach 40,800 million yuan in 1957, about 80 percent more than in 1952.[65]

The problem for India is how to increase capital investment without sacrificing democratic processes or the small gains that have been made in the standard of living.

[58] Bologh, T., op. cit., p. 238.
[59] Wu and North, op. cit., p. 16.
[60] Wu and North, op. cit., pp. 14–15.
[61] Chang Lin Chin, A Five-Year Plan for Increasing Agricultural Output, op. cit., p. 8.
[62] Wang Ching-Chih, China's 1955 Budget, op. cit., p. 14.
[63] The Five-Year Plan, op. cit., ch. 9.
[64] Li Fu-chun, Report, op. cit., p. 4.
[65] Ibid., p. 16.

Comparison of production and targets for selected products, India and China

Item	Unit	India, 1950–51	India, 1953–54	India target, 1955–56	China, 1952	China, 1954	China target, 1957	Footnote, India	Footnote, China
Pig iron	Million tons	1.57	1.65	2.83	1.90	3.03	4.67	5	1, 4
Steel	do	.976	1.08	1.65	1.35	2.17	4.12	5, 6	1, 4, 2
Electric power	Million kilowatt-hours				7,260	10,800	15,900		1, 4
Do	Million kilowatts	5,688		[1] 3.38				11, 12	
Coal	Million tons	34.43			63.52	81.99	112.98	10	1, 2, 4
Metalworking machines	Units	1,100		4,600		13,513		11	1
Cement	Million tons	2.69	4.02	4.80	2.86	4.73	6.00	5	1, 4
Paper	Thousand tons	114	137	200	372	480	655	5	1, 4
Petroleum	Million tons				.436		2.01		4
Do	Million gallons			403				5	
Coke	Thousand tons				2,860		6,685		4
Caustic soda	do	11	25	33	79		154	5	4
Sulfate of ammonium	do	46	307	450	181		504	5	4
Locomotives	Units		86	438	20		200	5, 8	4
Passenger cars (rail)	do	479	786	4,380	6		300	5	4
Freight cars (rail)	do	1,095	6,892	30,000	5,792		8,500	5, 8	4
Automobiles and trucks	do	16,519	12,629	30,000			4,000	5, 7	4, 2
Glass plate	Thousand square meters				21,320		40,000		4
Do	Tons	5,850	11,250	26,000				5	
Cotton yarn	Million bales				3.61	4.6	5.0		4, 1
Do	Million pounds	1,179	1,520	1,640				5	
Cotton cloth	Thousand bolts				111,634		163,721		4, 3
Do	Million yards	3,718	4,906	4,700				5, 9	
Sugar	Thousand tons	1,120	1,001	1,500	249		686	5	4
Food grains	Million tons	54.0	60.1	58.1				10, 13	
Do	Billion catties				327.93		385.62		1, 4
Cotton	10,000 bales	29.7		33.4				10	
Do	Billion catties				2.61		3.27		1, 4

[1] Capacity.

SOURCES

1. Chou En-lai, Report on Government Work to the National Peoples Congress, Sept. 23, 1954. Reported in Hsinhua News Agency, Daily News Release, Sept. 24, 1954.
2. Li Fu-chun, Report on the First Five-Year Plan for Development of the National Economy. Supplement to Peoples China, August 16, 1955.
3. 1952 and 1957 production excludes native cotton cloth produced from native cotton yarn.
4. The First Five-Year Plan of the People's Republic of China for the Development of the National Economy Peking, August 1955. (Summary, U. S. Consulate General, Hong Kong, Despatch 378, 1955.)
5. Government of India, Planning Commission Five-Year Plan. Progress Report for April–September 1954. New Delhi, 1955.
6. Steel production figure for 1950–51 excludes secondary producers.
7. Automobiles manufactured excluding those assembled in India. The Planning Commission Progress Report for 1953–54 states that production in 1951–52 was 23,576 automobiles; in 1953–54, 12,629 automobiles.
8. During 9-month period, April–December 1954, 103 locomotives and 8,455 freight cars were built.
9. Mill-made cloth only. Hand-loom cloth target for 1957 is 1,700 million yards.
10. Government of India, Planning Commission, Five-Year Plan, Progress report for 1953–54. New Delhi, 1954.
11. Planning Commission, the First Five-Year Plan, a summary, New Delhi, 1952.
12. Production target for electric power is not given. Capacity would increase from 2.3 million kilowatts in 1950 to 3.38 million kilowatts in 1956.